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Vol. XXI. DECEMBER, 1872. No. 6.

THE PENNSYLVANIA SCHOOL JOURNAL

ORGAN OF THE

STATE TEACHERS' ASSOCIATION

AND OF THE

DEPARTMENT OF COMMON SCHOOLS.

J. P. WICKERSHAM, Editor.

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THE

PENNSYLVANIA SCHOOL JOURNAL:

AN EDUCATIONAL MAGAZINE.

VOL. XXI. [No. 6.

DECEMBER, 1872.

DRAWING.

ITS INTRODUCTION INTO COMMON SCHOOLS.

BY GILBERT BUTLER.

WHAT is the purpose of primary intellectual education? This is the question of the day, and that which teachers are called upon to decide. I apprehend its first object is to train our youth in the use of those means by which men draw information from natural phenomena; and that its second object is to instruct them in the known laws of nature, in order that they may have a defensive armor wherewith to stand the battle of life.

The operations of reading, writing, and arithmetic are intellectual tools, whose use we all assume should be thoroughly understood. But in addition to these, we endeavor to fit the child out with a certain equipment of positive knowledge, and we instruct him in the great laws of morality; and in so much history and geography as shall tell him where the countries of the world are, what they are, and how they have become what they are. These subjects are what we deem indispensable, but is this enough for the nineteenth century? The Romans were taught the same subjects in the fourth century. Surely there must be a difference between the civilization of the fourth century and that of the nineteenth, and still more between the tone of thought of that day and this.

That there is a difference is obvious, and it has been caused by the grand development of physical science within the last two centuries. Take away the gifts of science, and our position as a leading nation is gone at once. The whole of modern thought is dependent on science; we meet it at every turn, and while the world of the nineteenth century is full of artillery, we send our children out into the field of conflict to do battle in it, armed with the shield and the sword of an ancient gladiator. What an equipment for the battle of life! A mere thin veneer of a fourth century education. "Pauperism and crime and misery, the attendant of both, increase terribly and our panacea is teaching the three R's." Posterity will cry shame on us if we do not remedy this evil, nay, when we see America out-distanced by foreign countries in arts and manufactures, our own conscience will rise up in condemnation, and cry shame on us.

America is dependent on its arts and manufactures, and yet we make no provision for our artisans. Great Britain, Austria, Germany, France, Italy and Switzerland have made provisions for a sound, practical education for their artisans, and the result is our own mechanics are out of the race altogether. In unskilled labor mere muscle is wanted, and the time has arrived when the unskilled mechanic cannot hope to compete successfully with his more fortunate cousin who has received a sound technical education. *Freedom* is our watchword. Let it then be the absence of all restrictions which can prevent our artisans from using their powers to their advantage. By neglecting to give our youth a more extended elementary education, we stop the progress of "Time's noblest offspring," and reduce ourselves to the rank of a second-rate power. In a country like ours, where free action is not restricted by antiquated regulations and laws, the product of ignorance, we have all the conditions for development to the highest possible point of culture and civilization.

A wise policy leads a country to draw to

itself all the wealth it can, with no smaller loss of its natural material than is absolutely necessary. If for every pound of clay a nation parts with, it can draw to itself by artistic treatment that amount of gold, it is certainly wise to ensure that end rather than to part with the material in its native condition, or worked into coarse vessels, at a low rate, thereby impoverishing the native resources of the country.

From this it appears that the beautiful has a commercial or money value. This being the case, it follows that the workman who can endow his productions with those qualities which give value to his works, must be more useful to his employer than the man who produces objects devoid of such beauty, and his time must be of higher value than that of his less skillful companion.

In reply to a circular of inquiry that was sent out from the Bureau of Education, Washington, in 1870, to the leading manufacturers of the United States, asking information on the following points:

Have you observed a difference in skill, aptitude, or amount of work executed by persons you have employed, arising from a difference in their education, and independent of their natural abilities?

What increase of ability would a higher degree of education—a knowledge of the arts and sciences that underlie his occupation—give the laborer in the power of producing wealth, and how much would it increase his wages? All agreed that a marked difference was observed in favor of the best educated, and that a knowledge of the arts and sciences, pertinent to their occupation, increased the wages from 20 to 100 per cent. This being the case, and economists are agreed that it is the duty of all governments to initiate movements that shall advance the arts and manufactures, it is clear that some provision should be made for the art education of our future artisans

Once let us establish a systematic course of industrial drawing in our schools, and our country cannot remain long behind European States that have the advantage some of a 100, some 50, and some 30 years start of us. We are fortunate in being able to profit by their failures, and can establish a system of our own that shall retain all the good of their several systems, while rejecting all that is faulty. Though we have much to learn, we have nothing to unlearn, and American talent is not going to take many years in placing our country as a pioneer in art. Since it is evident we must soon adopt a systematic training in art, and that it is a duty we owe to young America, let us set to work and join the path to prosperity in company with the States that have already commenced the onward march.

By "drawing" we mean no attempts at pretty pictures, but drawing that shall be at once a language, an art and a science. As a language it should be taught in our common schools in expressing form with accuracy. It should be taught as writing is, not merely for the purpose of copying, but for the embodiment of our thoughts. Its grammar, which controls the art of representation, is precisely the same thing as grammatical expression in language.

This teaching of drawing as a language is what we have most immediately to do with, and as our schools are most successful when carefully graded, so is it with art. The State Director of art in Massachusetts, who is thoroughly conversant with the European systems of art instruction, presents the following arrangement of subjects:

In primary schools, free-hand, model, and memory drawing; in grammar schools, memory, model, and geometrical; in normal schools, memory, model, and perspective.

Of course this provides only for our youth, while a thorough art education aims at instructing the three great sections of the people—children, adult artisans, and the public. This must be done at some time in the only practical manner that the European States have proved beyond a doubt can be done, viz.: elementary drawing in our schools for the children, night schools and classes for adult artisans, and for the general public, museums, galleries of art, and courses of public lectures on art subjects. All may not agree as to the comparative value of these several means, but all must agree upon this one point, that to make national art-education possible it must commence in our public schools. This is the established rule of all countries, and we cannot find a better.

To make anything like a success in art education it should be national. No system exists in America that can in any way compare with that devised by the State Director of Massachusetts. Mr. Walter Smith, the State Director, is a gentleman of ripe culture in all things pertaining to art and art education, and was chosen by the art authorities of the United Kingdom, upon the request of the school board of Boston, to come to this country and inaugurate a system that

shall combine the best points of all the European States, thus ensuring to us a competency with all, and giving us a splendid opportunity to develop a school of art that shall be peculiarly American.

After two years experience in Massachusetts he reports most favorably of the natural art talent that is rapidly developing, and is surprised at the wonderful adaptability of American school-teachers in instructing their schools in drawing, asserting that they show a practical skill in drawing that surpasses anything of the kind he ever saw in Europe. In an incredibly short time the teachers fitted themselves to commence their new art, and the results of two years are very satisfactory indeed, and go to prove two things, viz.: that no better art-instructors can be found than our school-teachers; and that America is destined to become a great art nation.

The system of introduction adopted in Massachusetts was this: Each teacher for fifty cents was supplied with a "teacher's companion" containing full instructions how to draw all the outline forms given in the common-school course. Although many of them never tried to draw before, the book was readily mastered, and at the end of three months each teacher could in ten minutes place any given example on the blackboard, and explain the method of drawing it. Then they commenced their drawing instruction in the schools, each pupil having already purchased a set of drawing-cards at fifteen cents a set in free-hand, containing forty-two lessons, with eighty-seven examples. These lessons succeed each other in a natural and progressive order, with thorough discipline, and embrace the elements of design without which all systems of drawing are useless. This set provided the pupils with work for one year; the next year each pupil provided himself with a set of model drawings at fifteen cents a set, and thus had another year's work before him. These exercises were worked on the slate by the children, during four lessons a week each of thirty minutes duration, while the teacher supplemented the exercise with full and concise explanation of the form or object drawn. The most flattering results have arisen from this trial, that has warranted the continuation of art instruction. Equally encouraging results reach us from Connecticut and Ohio.

Fellow-teachers of Pennsylvania, shall the Keystone State lag behind in such an evidently necessary work? Nay, rather let us prove ourselves, as of yore, ever equal to the hour, and at once seek to establish a system of art-education that shall have a sound, practical basis, and soon the Legislature of the State will recognize our efforts to place ourselves in the front, and will assist us as it has always done when we have shown ourselves earnest in reform.

"The foundation-stone of American liberty has written upon it that all men are born free and equal: as teachers, it is our business to see that this means *freedom from ignorance* and *equality with the best.* Wherever there has existed a happy combination of freedom, peace, and prosperity, there the arts have prospered, and given glory to the race and epoch which have ever been free, educated and artistic."

Let us reverently hope that as America has fulfilled some of the grandest conditions of this distinction, she may also reap some of its rewards.

HOW MANY LEADING STUDIES?

IN a former article, in the August number of the current volume, I incidentally expressed an opinion on this subject as applicable to the medium and upper grades of our country schools, though without assigning any special reasons. The question is not a new one in discussion, though in application there has been but very little change in the great majority of schools. We appear to be satisfied that the *curriculum* as at present constituted is, in practice, the best; that if it does not always yield most profitably, it is the result of business and social demands; that these time-honored and prevalent notions have grown from the actual needs of the community; that, theoretically, a change to a smaller number of leading studies might be considered well enough, but practically, from the very nature of the case, it would be unpopular and unadvisable.

We confess to a great deal of respect for ancient usages, and to the honestly conceived desire of parents, teachers, and pupils to do things now, as heretofore, and to have but few radical changes. This desire is, in many cases, eminently proper; but a little reflection on the results of judicious experiments might serve to modify public opinion, and give us such changes as the needs of the case demands.

Our colleges and schools of high grade have long since adopted "three" as the proper number of studies for students in the

regular course, and in institutions of this grade this is no doubt the proper number. In order to be admitted into these institutions, students spend many years in study, and enter with minds comparatively matured, or at least prepared to take up and pursue the studies of the course. This has not always been the case. During their first years in school they did very little real study. They at first learned, or should have learned, from frequent lessons, chiefly oral, though books were gradually given them as means of study. These should only be given as the pupil's powers become so developed and shaped as to enable him to understand —to digest what he learns. As they come to be relied on for the lesson, the pupil has become capable of continuous, concentrated thought, and this we should aim to cultivate.

If the power of concentration of thought is an end to be gained in connection with proper progress in knowledge, the question naturally arises: Is the almost general practice of distributing the labor of pupils, before their minds have reached any considerable degree of maturity, over three, four, five, or six branches, in about equal quantities, at the same time, the proper one? Cannot this end, and at the same time better progress in knowledge and general improvement—more real progress—be attained by limiting the number of leading studies to *two*, and giving proper attention to reviews, or elementary lessons in new studies and to general exercises? Even *one* study, properly pursued, during a term, is far better than half a dozen superficially passed over. Either geography, arithmetic, or grammar, well understood, is much better than a smattering of all.

In attempting to teach the usual number of branches at the same time, in the medium and grammar grades, where the study, as well as the recitation, is done during school hours, the sudden transition from one study to another is unfavorable to a proper degree of interest in each, and to the proper preparation of the lessons. Under these circumstances, the lessons, to be thoroughly mastered must be very short, so short, indeed, that nothing becomes fixed, or if so, in such a disconnected way as is not likely to be permanent. In order to secure the best results in the application of mental power, we must have concentration. We cannot have this without proper opportunities and suitable training to that end—by hastily and cursorily running over a series of rapidly changing subjects.

The proper preparation of a lesson is something more than learning the text, or becoming able to give the answers of the book. The recitation should not only give time to tell what has been learned, but to further illustrate and throw light upon the dark and intricate parts of the subject. Such an interest must be created that the work of preparation will become a pleasure instead of a task; that it will become the means of acquiring not only knowledge but habits of investigation, of persistent thought and effort; habits so necessary not only in our school work, but in everything we desire to achieve.

Let, then, the number of leading studies be reduced to "two," at least, and let the work of preparing and reciting these lessons be done during those portions of the day when the pupils are able to do the best work. The minor or review studies will then be considered when the children are least prepared for hard work—when confinement and application have unfitted them for that close attention which a new and, perhaps, difficult subject requires.

Teachers will readily see other good results to be attained by reducing the number of studies. Objections, too, can be raised, but none that will not be much more than over-balanced by the benefits. Besides, a faithful attempt to reduce this restriction to practice will make the difficulties less, and the good results more apparent. S.

CALLING ROLL AT INSTITUTES.

BY W. W. WOODRUFF.

THE law authorizing teachers' institutes requires that a roll of members shall be prepared and called at least twice every day during the session of the institute. This is usually done by reading the list of teachers enrolled, the teachers in their seats responding to their names.

The objections to this method are, that it takes time; that it tempts to disorder, by leaving the institute with nothing to command its attention; that it does injustice, by proclaiming persons as absent who may be only tardy; that it makes matters, somewhat personal, too public; and that it does not give results that are entirely trustworthy, as names are sometimes omitted, or misunderstood, and responses are given by others than the persons whose names are called. For these and other

reasons we think this method should be entirely discarded.

Another method is to have the teachers numbered in the order of their enrollment, and twice each day to call upon the teachers to give their numbers in order, some one noting on the black-board all the numbers omitted. The numbers thus noted will indicate the persons absent or tardy, as the case may be, while the name of the person is known only to those who consult the roll-book of the institute. This method takes but little time, is a lively exercise, and, where the number of teachers does not exceed a hundred or so, is, perhaps, as practicable as any other,

But there is another method of calling the roll that is convenient and reliable, relieves the superintendent of all care and annoyance, and takes not one moment of the time of the institute. It can also be used so as to secure valuable information and statistics. The method is a follows:

First. There should be a blank form of application printed and furnished to each teacher who wishes to register. It may be in such form as the superintendent may prefer, and contain such questions as he may desire to have answered.

Something like the following is suggested:

No.....

Application for Institute Ticket and Free Return Pass on Railroad.

WRITE LEGIBLY. GIVE NAME IN FULL.

Name,.....
Post-office, ...
District represented,.....
Wages per month,.....
Do the Directors allow the week ?.....
Do you attend a District Institute ?.....
If you came by Railroad, at what Station did you take the cars?

Second. There should be a ticket printed somewhat in the following form:

TEACHER'S TICKET.

No.....

.....

☞ Show this Ticket to the Door-Clerk morning and afternoon, when entering the Hall. and be sure he takes account of the number. Retain the ticket until called for.

Third. The door-clerk should be furnished with printed cards having figures arranged as follows, which can be extended according to the size of the institute, keeping each hundred in a block by itself:

——— ———COUNTY TEACHERS' INSTITUTE.

0	10	20	30	40	50	60	70	80	90
1	11	21	31	41	51	61	71	81	91
2	12	22	32	42	52	62	72	82	92
3	13	23	33	43	53	63	73	83	93
4	14	24	34	44	54	64	74	84	94
5	15	25	35	45	55	65	75	85	95
6	16	26	36	46	56	66	76	86	96
7	17	27	37	47	57	67	77	87	97
8	18	28	38	48	58	68	78	88	98
9	19	29	39	49	59	69	79	89	99

The door-clerk will need a separate card for each half-day of the institute. Each card should be dated when used—as, Tuesday forenoon, Tuesday afternon, etc. It will be observed that the figures are so arranged that any number can be instantly found.

We are now prepared to proceed.

Teachers, on their arrival, report at any designated place, and fill out an application for membership. This is handed to the secretary, who numbers each in order, and gives to the teacher a ticket of corresponding number. The roll of the institute is made out from these applications, which are on file in the order of their numbers.

The door-clerk should be at the door of the hall where the institute is held when it is opened, say half an hour before the beginning of the institute, and as teachers present their tickets he should call out the number, at the same time crossing it off the card, while the teacher passes in. Those who arrive after the institute is called to order, can be designated as tardy by having two marks drawn across their respective numbers. The clerk need not remain at the door after the institute has been called to order, it being understood that the teachers who are tardy are to report to him at the intermission and be marked as tardy, or they will be marked on the roll as absent from that session. From the door-clerk's card the secretary of the institute can transfer to the roll-book the absence or tardiness of such as may be thus indicated. This will take but a moment, as nearly all will be marked on the card as punctual, and will, therefore, stand without any mark on the secretary's roll. The record of each half day should stand in its appropriate column.

This plan is noiseless, reliable, time-saving and free from the annoyances and embarrassments incident to many other methods. It may seem, from this description, rather complicated, but it is not. It has been tried

in Chester county, where it originated, also in several other counties of the State, and is found to work smoothly, and with entire satisfaction to all parties interested. Every county, it is believed, that has tried this method has continued its use.

PROF. BUCKHAM ON ORAL INSTRUCTION.

PROF. H. B. BUCKHAM, Principal of the New York State Normal School at Buffalo, recently read the following paper on Oral Instruction at a teachers' institute. It evinces the same sound philosophy and good common-sense that characterize all the productions of this gentleman. Miss Wright, also of the normal school, gave a lesson illustrative of the principles laid down by Prof. Buckham:

By the re-arrangement of the course of study for the graded schools and by the direction of the Superintendent of Education, the teachers of the city are required to give more attention than heretofore to *oral instruction*. At the normal school with our graduating class and in one school of practice we are paying much attention to the "Method," if I may so call it, and through the courtesy of your committee Miss Wright and myself have been asked to present this subject to you this morning. She gives illustrations and I give a brief statement of principles, and we ask you to accept both as our contribution toward a better understanding of this way of teaching.

1.—*What oral instruction is.*

Literally taken, oral instruction is any instruction conveyed by words of mouth; that is, any information or statement made by the lips to the ear, in distinction from the same addressed to the eye by means of the written or printed page. Hence many regard all verbal communication to the pupil, whether it embodies explanation of something done or statement of something in extension of what a book says, or whether it is a formal lecture, as oral instruction in the sense which educators attach to the words A conversation with a class, or a reading from a book, or an illustration thrown in, or even a story told, are in this view the varieties of oral instruction. In like manner a page repeated from memory, be it history or grammar or intellectual arithmetic, is an oral lesson on the part of the pupil. The essence of it consists simply in *spoken* words rather than in *printed* words; in the form of address, or in the sense addressed, rather than in any skillful approach to the intellect by the avenue of readiest access. It is not *this* which may be claimed to be a "method" by itself, for this is an accompaniment and auxiliary of all methods. Oral instruction is not simply *talking* to, or with, a class.

Nor, again, is it simply giving the lessons of a text-book without the book. If teacher and pupil should both be able to dispense with all books in the class and to go through with the lesson as it is given them, it might not vary at all from the lesson of the book, and the only distinguishing feature of it would be the greater exercise of memory. This would be on the part of both a lesson remembered, for which the text-book would still furnish both the guide and the substance. This lesson would have an apparent advantage over one heard directly from the text-book, but except so far as independence of the book at the time of recitation goes, only an apparent advantage. Oral instruction, I understand, differs from other instruction in that it makes its own text-book, that is, its definitions, its statements of principles, its rules, all that would be put into a book; and in that it does this, not by giving them ready-made, but by leading to them by regular steps. It aims to persuade the pupil to use his own power by a skillful presentation of points adapted to awaken his curiosity. It assumes that the pupil may, within his range, investigate and discover truth and learn to make the formulas by which it is expressed, and that this is better than to give him formulas of any sort and tell him to use them for solving problems or for doing any part of his work. It is a process of unfolding of development, rather than of furnishing the results of previous investigations made by others. It is original inquiry under guidance, inquiry at first hand rather than reception of truth at second hand; it is a path of discovery, rather than a subsequent account of what has been discovered. It is leading the child to do what all who make books ought to do, instead of telling him outright the results which others have already reached. It is a methodical presentation of truth, not ordered on the surface, but near enough to stimulate search, without requiring too severe toil or too deep delving. Step by step truth is unfolded, not communicated. Ray by ray light is let in that each point may be seen by itself, and that the whole may at length stand revealed, and that each part by the process of discovery may be the learner's. In the nature of the case instruction which has this end as its leading idea must be *oral*; it must be for each learner a bringing out of his powers, it must be a direct personal contact of his own mind with the mind of the teacher, and through the medium of the subject which is under investigation.

2. *How it should be given.*

The method of giving oral instruction is implied in what has already been said. It deals with the concrete, with objects sensible for the most part, and seeks to interest first in things rather than in obstructions. The three steps are these: the proper presentation of a suitable object or of a subject of a lesson which may be readily referred to sensible objects; then, attention being arrested, and curiosity being excited, by skillful questioning, leading on to the particular discovery desired; and then, the appropriate expression in correct if not in exact language of the point discovered. In order that such a lesson may be of value, it should aim to make definite points, not simply to bring out anything that may happen in a random talk; these points should succeed each other according to a law of development, not as may happen; they should be of intrinsic value when made, and should be introductory to others which are to follow. Much and varied knowledge is necessary on the part of the teacher, and the most careful preparation is imperative, that the lesson may be a unit in the child's education, and a factor in every succeeding lesson.

Skill in questioning is the great art in a good oral lesson, quickness to perceive what is adapted to each child's mental capacity, readiness to notice the direction of his thoughts, and to turn those thoughts with the channel of the lesson as arranged beforehand, as well as much tact in accepting what in an answer is

right, and through this part reaching the whole answer desired; in a word, sympathy with the working of children's minds is indispensable.

The lesson is based upon what the child already knows; that is the starting point; the end is something not known; the means or the sensible objects used or referred to, and the teacher's questioning. The ability to perceive them in the power of getting new impressions through the senses is made use of; and when these impressions are clear and definite, the ability to compare them and to draw inferences, and so to form correct judgments is cultivated It is the scientific process; observation, reflection, classification; and the result is knowledge which has been reached by the child's own exertion, and which consequently has for him the freshness and reality of actual discovery. This is nature's method—the idea first, and through the senses for the most part; then the term, though it is a technical one; then the accurate expression of the judgment in a correct form of speech

Of course an oral lesson may be of no more value than a lesson recited *memoriter* from a book. It may degenerate into mere amusement and mental dissipation; it may become senseless twaddle. But if the teacher has knowledge, fixes her mind on the goal of the lesson, promptly rejects all answers and questions aside from the path, holds the class up to the truth or fact sought after, the oral lesson is the embodiment of both good sense and skill. It is by no means easier for either party than another form of lesson, nor is it more likely to run into useless and frivolous waste of time. The child always and necessarily begins his education in this way, and oral lessons in school are but a systematized continuation of first lessons in the nursery or on the play ground

3 *Some advantages of such instruction.*

This sort of instruction brings the mind of the learner into close and living contact with another mind, instead of into contact with a printed page. And as iron sharpens iron, so this contact of mind with mind develops power. Books to children, books of knowledge, at least, are dull and senseless things, but the object put into his hands, the voice of the teacher, her animation of manner and manifest interest in him and the lesson are incentives that he cannot resist.

Again, this method of instruction must cultivate habits of observation. Children are taught to use their senses, are made to know by daily use of them and by daily accessions of knowledge through this use, that they are indeed the inlets of the mind, that sense-knowledge is the first in time of all knowledge, and is the condition of all other knowledge. And we, who are older, know that these senses are for all our lives the medium of communication with the outer world, without which all the products of "internal consciousness" would be of little worth.

Again, this method of teaching deals with the minds of individual pupils. Truth is presented to each, so each has power to grasp it. If one question of illustration does not produce the effect desired, another may be tried, and yet another, till the form of it which each may comprehend is found. Thus no one is left uninstructed; no mind is left unawakened. The teacher feels bound, as he has the opportunity to bring the lesson home to each mind, he must grasp it. Each effort made with another, and each partial or full response of that other is so far an approach to the dullest mind in the class, and often a turn of expression a child will use is the 'open sesame" to his mind. And once again, the process by which knowledge is gained is as valuable as the knowledge itself, because it is one he will repeat in all his future inquiries after truth. Book lessons will be forgotten, but this way of getting at truth for himself will be remembered. It is not something to be dropped when he leaves school, but an instrument to be with him always. Investigation and inquiry will take the same general form in whatever direction he may seek for truth. Finding out for himself under guidance when a child, will lead him and enable him to make independent observations and sound reflections when a man. Such, very briefly and imperfectly, is our idea of oral instruction. Without being at all extremists, or wishing to put text-books out of school, we think that for children they are used far too much. We think that it should in nearly if not quite all grades of our public schools, be substituted in part for instruction from books, and that both teacher and pupil would be benefited by such substitution. This work should be most carefully studied and most carefully done; otherwise it will be worthless, and the method will be brought into disrepute.

THE THREE STAGES OF THEORETICAL CULTURE.

UPON WHICH IS BASED THE THREE-FOLD DIVISION OF EDUCATION: PRIMARY, SECONDARY, AND UNIVERSITY EDUCATION.

BY WM. T. HARRIS, LL. D.

THE beasts of the field perish and leave no heritage of culture to their successors: so that each whelp has only a small stock of instincts to guide him, and the life of his dam, with its manifold experience, has no lesson transmitted to him through rational discourse. Man, on the contrary, lives in a universal life, a life of reason communicable to all, and which, on this account, is continuous from generation to generation. This life of culture, this participation of each in the life of the whole, makes civilization. It is the spiritual life of man. Education is the instrumentality of its realization.

Education in this comprehensive meaning, and considered according to its ideal, has three stages, classified according to the degree in which the pupil rises to a comprehension of the subject matter of his studies, or, what is the same thing, according to the degree in which he realizes his freedom therein.

1. There is the elementary stage; it is characterized by the fragmentary manner in which the material of education is served up to the pupil. Instead of learning a subject exhaustively, he is obliged to learn superficial phases of it, mere glimpses of it.

He seizes every thing isolatedly, or at best, in some of its shallowest relations. This is to be called Primary education, or, omitting its disciplinary aspect, Primary instruction. The elementary aspects of this phase of education is not an objectionable feature, or if it is to be regarded as an evil, it is at least a necessary evil. The first stages of the growth of intelligence are necessarily manifestations of weakness and incapacity to grasp things in their synthesis. The thinking activity is not strong, it can take no long strides or wide grasps. In seizing any object whatever, the child catches only some obvious phase or phases, and is utterly oblivious of the deep essential relations that engross the attention of the veteran observer or cultured thinker. A phase is immediate—can be seized at once—pushes itself in one's way—forces itself on his attention, hence, even the child catches *phases* of things. But *relations* are *not* immediate, are not obvious at a single glance, but involve a higher activity, the activity of reflection. Thus we ascend from the immediate perception of the child, the faculty most active in the primary stage of instruction, to the mediate perception of reflection which characterizes Secondary Instruction.

2. Observation and reflection, when active to any good purpose, soon teach us that the immediate world of phases is not the *true* world. We learn, step by step, that every phase is dependent on something else, that the independent, self-existent being is always somewhere behind the reality presented to our senses. Therefore, in every object before us, we learn to recognize, not only the seen, but also the unseen and invisible. Paradox as it may seem, we see the invisible. We look through and beyond the material world to a world of relations behind it, and learn to consider these relations as the elements of the true and abiding. The paper I hold in my hand, to the child, is a true being, as much as *he* is. He seizes only the immediate phase of it, the phase of being. But to you and me this paper exists in relations and not independently. It depends upon air, and moisture, and heat. It has such essential relations to the elements that it cannot exist without them; remove either of them and it will be destroyed; and if you do not remove them it will be destroyed. Take away its moisture and it would crumble to pieces at once, and yet, that very moisture if left in it will gradually change it so, that under the most favorable circumstances, it will decay in a few years. This change of the object brought about by relations to other things in the world, by its *dependence*, is continuous though slow. It does not remain the same any two consecutive minutes or *seconds* even.

Considering this mutual dependence or inter-relation of real things in the world, reflection has often said, "If one grain of sand were destroyed, the whole Universe would be destroyed." Every reflecting man sees at once that by the simple law of gravity the weight of the earth would be changed by the destruction of a grain of sand, and that the change in the earth's weight would change the weight of the sun, and through this the aggregate attraction of the planets, and so also of the solar system and the fixed stars; thus the universe of matter would be no longer the same as before.

This second stage of man's intelligence sees relations and sees all things modified and influenced by these relations, so that nothing would *be* as it is, or remain as it is, unless its relations were just as they are and remained so. Secondary education is based upon the culture of reflection, upon the perception of relations. In our day the whole realm of natural science has burst the bonds which confined it during the past century, and has gone over to the recognition in a more or less explicit shape of the essential nature of the relations it discovers in the natural world, and which it formerly looked upon as accidental, or at least as incidental, and not essential to the being of objects. *Force* is not perceived immediately as a natural object; it is a relation, and is perceived only by reflection. It is a synthesis of two objects—all relation is a synthesis, and when analyzed is found to contain two elements and a bond of unity. Thus it is clear why the child, with his undeveloped power of thinking, cannot and does not seize the truer phases of things; the correlation of forces is their deeper law, and it crowns the efforts of reflection at obtaining scientific truth.

To the second stage of man's culture in thinking activity the world is *dynamic*—an aggregate of reciprocal relations; all real things seem transitory and phenomenal, while their abstract force or law seems to be alone abiding.

3. Above these planes of intelligence there is a third and higher form of thinking. It is the realm of *organic* thinking, and deals with self-relations instead of mere dependent relations. While the first, or elementary thinking, is *analytic*—in the

sense that it seizes things in their isolation as though independent, cutting off and ignoring their essential relations—the second, or reflective thinking, is *synthetic*, in the sense that it seizes objects in their relations, thereby adding to each object what is found to be implied as necessary to its existence; it does not, however, reduce to a unity the mediation here implied. Although it has reached a synthesis, it holds the same in the form of antithesis. Hence its universal, its highest, principle is an abstraction. It is inadequate to the task of thinking life or anything organic; hence it cannot comprehend institutions, nor anything that has life, as its principle. Out of its activity spring negative and skeptical reactions, but no recognition of the truth of institutions as they are.

The third, or comprehending thinking, is the object of the highest form of education. It thinks objects as wholes or totals, neither leaving out their relations like sensuous perception, nor stopping with mere abstract relations like reflection, which is satisfied with force as an ultimate category. This highest thinking finds the ultimate result to be no blind force, but a living intelligence. It brings the student back out of his pantheistic wanderings through space and time to the spiritual as the highest principle. He finds that matter is to be explained through mind, and not mind through matter. Of this character is the lofty science of the great thinkers of the race. Plato, Aristotle, Leibnitz, Spinoza, Hegel—all these find the organic first principle whose actuality is the series of institutions wherein man becomes a total and independent being. No less do their kindred, the great geniuses in poetry and art, concur in the same high doctrine—Homer, Shakespeare, Goethe and Dante. The exposition of the nature of human institutions, through the portrayal of the collisions into which individuals fall, in relation to them, is the province of all art worthy of the name.

On these three grades of thinking are based the three grades of education—the lowest, the primary grade; the next the secondary, and the third that of *independent thinking*.

If we look into our recognized system of instruction it will be difficult to find and identify a realization corresponding to the three different divisions I have drawn. For the most part our institutions confine their labors to unfolding the first and second stages of thinking. They are, for this reason, negative and skeptical in their influences. Most of the higher culture comes from private, solitary reading, and *not* from association in our universities with *positive men* who belong to the highest planes of culture.

Be this as it may, it must be evident to all who regard the question in its full scope, that the primary and secondary education should be laid out with special adaptation to the growth of the pupil into the higher measure of intelligence. Preparation for independent thought should be the aim of the teacher, from the first lessons in the primary grade, *on* to the *last*. But how if one does not believe in the existence of the higher thought? In that case it is quite likely that the primary instruction will be so conducted as to lead the pupil to be contented with *it* and to strive for nothing higher. Or, if the course of study is laid out on the plane of reflection, emancipation from the primary thinking may lead only to abject slavery to those *bleak and chilling abstractions* which dominate in the secondary sphere. If confusion exists as to the relative value of the modes of thinking in the lower stages, the course of study will be a chaos. Branches will be arranged rather according to the caprice of the teacher or school director than with reference to the ascent of mind toward independent thinking. There is a tendency of educators in the *secondary stage* to undervalue the importance of the simple elementary branches and to dwarf their province in the course, in order to give room for the *higher branches*, such as the natural sciences. This is the chief danger of our time, and its innovations are various and subtle. To-day a delightful little text-book in botany is introduced, and room is made for it by dropping a few lessons in arithmetic and geography. To-morrow the like thing happens with a new and inviting book on geology, or astronomy, or ancient history, and in the end it is found that there is no limit to the time demanded for these things, and that on this basis the course of study is in a perpetual flux, and swayed by the caprice of the individual. The arguments with which these substitutions are urged are of one type: "Our pupils come out of school and know literally nothing of ancient history!" No one doubts the importance of ancient history, and therefore the defect in the course of study is acknowledged. The same discovery with reference to geology leads to the same remark. It applies to everything knowable,

and one might say: "Why, here's my child who has been six years to school and I find that he knows next to nothing of dogmatic theology;" in fact there have been people who would introduce dogmatic theology in the primary school. But it is rare to find educators thoroughly persuaded of the deep significance of the elementary branches taught in our schools. The one who has in view the highest stage of thought does not need to be told of the fact that there are broad avenues opening out from the lowest primary stage of culture of mind, and that these lead most surely to the summit.

The Western.

THE TEACHER AND THE PUBLIC.

THE following is an extract from the address of Prof. Charles H. Verrill, Principal of the Mansfield State Normal School, to the late graduating class, June 20, 1872:

The fact that you have taken a normal school course, and have graduated, gives the public the idea that you intend to teach for a time at least. It may be that teaching is not your chosen profession; for, though in some cases it is, all of you in fact will be employed in teaching more or less, and it becomes you to realize fully the relations as teachers that you will sustain to the public. Of course, teachers are the servants of the public to a great extent; but are not our clergymen, our lawyers, and our merchants, servants of the people? In a word, are we not all each other's servants to a great extent? Are any of you imagining that the teacher's task is a thankless one, and that he is not appreciated? Do you sometimes say that he is foolish who engages in such a profession or business? I admit the time has been when such thoughts might have been indulged, but to-day there is a brighter side; to-day, I contend, there is a change, and the relations of teachers to the public are not what they have been. Teachers are better appreciated now than formerly; they are better remunerated than years ago, and it is well for teachers to give credit to the people for this. Here, in our own State and our own county, I can see that the teacher of the public school is better appreciated, and more are interested in educational matters; better grading is found; and pupils and teachers are provided with more suitable accommodations. It is safe to say that the laborer in the public school is not only "worthy of his hire," but will receive better compensation for his work. My friends, as you toil in the school, do good work; make preparation for the work in all its phases. Never fail to become interested in the welfare of those whom you instruct.

Again, the social position of the teacher is higher than formerly, and for this all who are interested in education should be thankful; in truth, the teacher gains much in his work in having a good social standing. None but the best and warmest sympathies should exist between the people and teachers, as they are mutually benefitted by each other's labors. There are other relations, there are other duties than simply class duties, for teachers to consider.

As you now leave here, and engage in teaching, do not forget that you are *citizens*, and that you are in duty bound to labor for the welfare of the community in which you reside. As teachers, make teaching your *chief* occupation, but when you can do other work in addition to this, which will give you more power and efficiency as teachers, do such work cheerfully.

METHODS OF RECITATION.

THERE are three distinct methods of calling upon pupils.

I. *The Consecutive Method.* This consists in beginning at the head of the class, and calling upon the pupils in regular succession.

The *objections* to this method are:

1. It encourages pupils to prepare only that part of the lesson upon which they expect to be questioned.

2. It encourages inattention, as a pupil when he has answered his question feels entirely relieved until all the others have answered.

The *advantage* is, that it enables the teacher to ask questions more rapidly when only short answers are required, and thus saves time.

II. *The Simultaneous Method.* This consists in having the class answer or recite in concert.

The *objections* to this theory are:

1. It gives no opportunity for individual testing.

2. It does not allow of long answers. The teacher must so frame his questions, that a simple word, or at most a very few words, will answer them; otherwise, an answer in concert is a *jargon*.

3. It follows from the above, that the teacher must do most of the talking. This is just the reverse of what should be. The teacher should talk but little.

4. It affords opportunity for lazy pupils to shirk, or "to join in" after those who know the answer have begun to recite.

The *advantages* of this method are:

1. It enables the teacher to give each member of the class something to do frequently, and thus keeps up the interest. This is especially desirable with small pupils.

2. It encourages the timid to speak out.

3. In reading, it regulates the speed. Those who read too rapidly are held back, and those who read too slowly are hurried along.

III. *The Promiscuous Method* This consists in calling upon pupils in an irregular

way, so that no one will know when his turn will come, or how often it will come.

Its *disadvantages* are:

1. Unless the teacher is very careful, he is liable to allow those pupils who are the brightest and always have their lessons, to do most of the reciting, which is *wrong*. The most of the time should be spent with the "dull" pupils. The bright ones will learn without attention.

2. In large classes some are liable to be overlooked and not be called upon for days at a time. I have often known this to be the case. The result is invariably bad; loss of interest on the part of the pupils thus neglected is certain to follow.

The *advantages* are:

1. It secures the attention of all, as each is liable to be called upon at any moment.

2. It enables the teacher to ply his questions most when they are most needed.

We conclude, then, from the above discussion, that no one of these methods used exclusively is best, but that the skillful teacher should judiciously combine them all.

To save time it is often well to use the consecutive plan—to have it understood, that when one person has recited, the next person is to answer the next question, unless another is named. But the teacher should see to it that the order is broken so frequently, that all will be on the lookout.

The simultaneous plan should be used only to vary the exercise and attract attention, and sometimes in reviews and drills; as a rule, the children should be required to recite with but few questions—to form complete sentences and to use good language.

The promiscuous method, used exclusively, is the best of the three, but, as suggested above, it may become *too* promiscuous.

The question should always be asked *before* the pupil who is expected to give the answer, is named. Then, as no one knows whose name will be called, every one gives close attention and thinks vigorously. The best mental work of the class is often done during the little time that elapses between the asking of the question and the naming of the pupil to recite. If the person is named first, and the question asked afterward, only the one named feels called upon to give *special* attention.

No method can be called *the best* for all teachers, or for the same teacher under different circumstances.

Neither will any method succeed, however good, unless there is a good teacher behind it. While much of success in doing any school work, depends upon the method used, a vast deal more depends upon the teacher. There is always more in the teacher than in the method. Teachers need to "mix brains" with their work.—*Indiana School Journal.*

MYSTERY.

BY MISS HATTIE B. SWINEFORD.

SACRED and profane history bear record to the fact, that in all ages it has been the natural propensity of man to ignore the known and revealed, and search into the hidden and obscure. In order to testify to the truth of the assertion that this propensity is natural, we need only observe the actions of children, who, ungoverned by judgment or association, act upon the natural prompting of the mind. Savages, too, display this tendency in a remarkable degree, who, though uneducated and uninformed, seek to know the mysterious workings of the Great Spirit.

There is an undefinable longing to rend asunder the impenetrable veil which shuts us out from that world of mystery that "eye hath not seen." Following this propensity we pass by the beautiful promises given to the faithful and believing, and delight only in endeavoring, with our limited knowledge and imperfect vision, to peer into the future which has been so wisely veiled from our sight.

This tendency being so general, we may with propriety inquire whether its influence be beneficial or not. Ask the scientist to what source he is indebted for the progress he has made, he will tell you that love of study alone would long since have failed to spur him in his efforts to thread the mazy labyrinths of doubt and perplexity, had he not received inspiration from the desire to go beyond, to grasp the infinite, to attain to the illimitable.

The theologian of the present day, not satisfied with the beautiful child-like faith of years, which taught him to believe and accept, now questions—"Why believe?" "Accept what?" Seeking to answer these ever-recurring queries, he drifts away from the comforting assurances to the faithful, seeking to gain a landing where there is no foot-hold.

The sphere of mystery is synonymous with immensity itself, both leading the speculative mind into channels of thought,

remote and bewildering. The practically credulous mind rejects the idea of mystery, or ascribes it to some wise purpose equally mysterious, and accepts everything in blind faith. If the unraveling of mystery's web leads us into regions of intricate thought, is the unreserved acceptation of all things the more truth-establishing? Are those who seek to discover a knowledge of the mysterious, only the foolish and imaginative, or are they the deep thinkers, the reflective minds of the age?

Granting the universality of this propensity to know the unknown, may one not conclude that the Creator had some wise design in instilling this principle within the minds of His creatures? This inclination is the very fountain head and source of all knowledge, intellectual and spiritual. Will we ever attain to the fully-known and comprehensible? Will anxious research reward us with the knowledge to which we aspire, or will blind faith be realized?

JUSTICE.

TOMMY having at the breakfast-table made known his intention of "not being good, or minding the teacher a bit," his parents were hardly surprised at noon to hear him announce with a sort of aggrieved complacency, "Teacher *slapped* me."

"Did she?" inquired papa. "What did she slap you with?"

"Oh, a stick 'thout any whip-lash," replied the victim, composedly.

"What were you doing," asked mamma.

"Talking to Stevie."

"Did she whip you just for that?" inquired Grandma, indignantly.

"I talked to him all the time," replied truthful Tommy.

"Didn't she tell you to stop?"

"Yes, she told me to stop all the time."

"And you didn't mind!—oh, Tommy!"

Mamma's face and voice were both very sorrowful, and Tommy's tender conscience twinged remorsefully, but he said not a word. He ate his apple-pie in silence (somehow it wasn't as nice as usual that day), and went back to school in the afternoon, never coming in, as he usually did, for his good-bye kiss.

He had been laughingly called "the teacher's boy" by the other scholars, he so often went to meet her before school, and almost invariably attended her home with a gallantry beyond his years; but "he wasn't the teacher's boy now," and "he wouldn't be the teacher's boy *any more*," he said to himself, as he walked slowly along, kicking up the dust with his little worn toes, and scowling fiercely as she suddenly appeared around the corner, followed by a troop of children.

"Why don't you go and take hold of her hand?" inquired Nancy Taylor.

"'Cause I don't want to," replied Tommy, out of the cloud of dust he was raising.

"Please don't, Tommy," said a pleasant voice very near him. "You'll put my eyes out. Whew!"

"I don't care," muttered Tommy under his breath, as she passed by.

"O, Miss Smith!" shouted the inevitable "tell-tale," "Tommy Saunders says he don't care. He don't care if he *does* put your eyes out."

Miss Smith made no reply—she only smiled; but when the scholars had taken their seats, and she looked down from her platform upon her cross little pupil, who was regarding her with a most unpropitiatory frown, her face became very sober.

"Poor little Tommy!" she thought, "he hasn't been a good boy since I took away his marbles. I'm afraid he'll never forgive me," and then the spelling lesson was ready, and she forgot all about him for a while.

But right in the middle of the word "dangerous," which Tommy's eyes certainly were at that moment, a loud rattling noise was heard.

"Children," said the teacher, "you must learn to take care of your marbles. The boy who owns those may bring them here."

But no one rose. She looked incredulous, then displeased, for she had thought her pupils were honest. At last Mike McIntire, a pale Irish boy from over the sea, raised his hand.

"If you plaze, Miss," said he, "'Twas no marbles ye heard. There are a small boy beyant, where the men's buildin', an' he loads his bit of a cart wid pebbles, and turns 'em out under the windy jist. It's him ye heard, Miss."

She was relieved, and the lesson was progressing, when, happening to look in the direction of Tommy's corner, she saw him whispering to his next neighbor, glancing at her at the same time with a countenance expressive of such unmitigated wrath and indignation that she was fairly startled.

As she spoke to him, the little face became sullen, almost defiant.

"O Tommy!" said she, sorrowfully, "you know how to be good, but you're so naughty! What *shall* I do with you?"

That was a question, however, upon which the culprit seemed disposed to throw no light.

"I think I must send you home," said she, very seriously.

The rosy cheeks flushed more deeply. The "stick 'thout any whip-lash" was bad enough, but to be sent home in disgrace was incomparably worse.

"Get your hat, Tommy."

But Tommy didn't move, and, in the awful pause which followed, the teacher, though hardly knowing why she did so, inquired, "What did he say to you, Johnny Reed?"

"He said," answered Johnny, glibly, "that you took away his marbles when he wasn't playing with 'em at all. He said he was a-studying his lesson, as hard as *anything* when you took 'em away. He said you was an ugly old thing, and he hoped"——

"That will do, Johnny," said she, becoming suddenly enlightened. "Come to me, Tommy."

The little fellow came very slowly, looking almost frightened, though infinitely relieved that Johnny had not been allowed to finish his sentence.

But, to his surprise, the teacher took both his small hands in hers. "Look at me, Tommy," said she, very quietly, "and tell me all about it."

But Tommy couldn't say a word.

"Were you really studying when I took away your marbles?"

He nodded.

"And that is what has made you so naughty all this time?"

He hung his head.

"Why didn't you tell me?"

"'Cause I didn't want to," faltered inconsistent Tommy.

"Poor little boy!" she said to herself. "It was a cruel wrong, and he shall have redress—yes, this very moment. I don't suppose it would ever have occurred to him that the mistake could be rectified. He would have scowled it out until 'the bitter end' if it hadn't been for Johnny. Poor baby!"

Meanwhile the baby (I hardly dare call him so, lest he happen to read this story) stood with his eyes fixed upon the floor. It was an old, worn floor, full of cracks, but Tommy did not see them.

The teacher took the bag of marbles from her desk. "Children," said she, "I find that I have been very unjust to Tommy Saunders. I thought he was naughty when he was good. Now I am going to give his marbles back to him again. Here they are, Tommy. I'm sorry I kept them so long. Won't you forgive me;"

He grasped his treasure with one chubby hand; the other he suddenly drew across his eyes; then he stood like a statue, motionless and speechless. The scholars laughed, but Miss Smith went quietly on with the lessons, taking no further notice of him. The classes recited as usual, but he seemed not to hear them. Even his favorite "*jog*raphy" failed to rouse him. At last the session was over, the scholars gone, and he and the teacher were alone.

Then, as she sat writing at her desk, a little figure crept slowly up to her. A wee figure which she lifted quite easily into her lap—a sorrowful little figure, crying bitterly.

"What is it, Tommy?"

"You *aint*—an—ugly—old thing," sobbed Tommy.

"I know it," she replied, accepting the implied apology. "We're going to be good now, aren't we?"

"Yes," emphatically.

She kissed the quivering little lips, and two fat arms were thrown round her neck. "O Tommy!" she exclaimed, with a remorseful hug, "To think I should ever have punished *you!*"

"You didn't mean to, did you?" said the little fellow, soothingly.

"Yes, I did mean to, because you were so naughty; *don't* make me do it again, will you, Tommy?"

"I don't care *now*, he replied magnanimously. "You can do it again if you want to."

"If I *want* to! Oh what a Tommy! But the clock is beginning to talk about supper time. We must go."

She took her hat and shawl from their nail, giving her keys into the fat little hands extended for them. "This seems like old times, doesn't it?"

So it did. He was his gallant little self again, running to open the door for her as she passed out, then shutting it carefully, and manfully tugging at the old brass key until it was securely fastened, talking gaily as he trotted along by her side, like the merry little chatter-box he was, until they reached the corner where they parted.

His mother smiled as he came in. "I

think you've been a good boy, Tommy," said she, as she looked at his happy face.

"Yes—no, I wasn't—but the teacher—she thought—she didn't know—Johnny Reed told her—she was sorry—I've got 'em," and he clinked his marbles triumphantly.

His mother laughed at this funny jumbling of words. "How about the stick thout any whip-lash?" she inquired.

"Oh, she didn't mean to—I mean—she *did* mean to—but she isn't going to—she's *good!*"

These last words came with an emphatic jerk, as if Tommy had jumped out of his tangle, as indeed he had; for, company coming in at that moment, mamma reserved her questionings for a more convenient season.

And so Tommy became "the teacher's boy" again. *Christian Union.*

EXAMINATION QUESTIONS.

THESE questions were proposed on the basis adopted by the Principals' and Superintendents' Association of Northern Iowa. Sixty per cent. was the minimum standard for lowest grade certificate:

GENERAL QUESTIONS.

1. Write your name.
2. Your post-office address.
3. Age.
4. Number of terms taught.
5. What educational preparation have you had?
6. Do you read any school journal?
7. What works have you read on the subject of teaching?
8. How many teachers' institutes have you attended?
9. What have you done during the past year to improve yourself in the knowledge of the branches taught, and what in regard to investigating the best methods of teaching?

ARITHMETIC.

1. Define arithmetic, and as many of the terms used as you can. Let this answer be *full.*
2. Divide 3849 by the factors, 5, 7 and 11, and find the true remainder.
3. How much lumber would it take to fence a quarter section of land, the fence to be 4 boards high, and each board to be 6 inches wide; and what would the cost be at $25 per M.?
4. How many bushels in a cord of wood?
5. Bought 1015 acres of land, and sold 315 acres, 30 square yards and 7 feet. I then divided the remainder into 17 equal parts. How much in each part?
6. Subtract 1½ feet from half a rod, and give answer in fractions of both denominations.
7. How much inch lumber will it take to make a tank 20½ feet long, 10½ wide and 3½ feet deep, inner dimensions, and how many 40-gallon barrels of water will it hold?
8. A man arriving in Des Moines, finds that his watch is 3 hours, 20 minutes and 40 seconds too slow—which way did he come from, and how far?
9. Show by example that the smaller the factors the smaller the product.
10. State how you point in divisions of decimals, and why? Reduce and point the following:

$$\frac{8.5}{.17} \qquad \frac{144}{.00012}$$

11. 13½ per cent. of 4763 bushels of wheat equals what?
12. 65 is 13½ per cent. of what?
13. Draw a promissory note, endorse three payments on the same, and then find the balance due.
14. Compound interest on $300 for 3 years, 6 months, and 15 days, at 6 per cent.
15. If 10 men can did a cellar 20 feet long 12 feet wide and 7½ feet deep, in 6 days of 10 hours each, how many men will it take to dig a celler 35 feet long, 11 feet wide and 8½ feet deep in 3 days of 12 hours each?
16. A fox has 60 rods the start of a dog; the dog runs 15 rods while the fox runs 10 rods, how far will each have run when they come together?
17. Extract the square root of 8 to the 5th decimal place.
18. Extract the cube root of 4 to the 4th decimal place.
19. The first term of a geometric series is 7, the ratio 2, the number of terms 7, what is the last term?
20. Multiply 16⅔ by 17⅞, without reducing to improper fractions.

GRAMMAR.

1. Define *all* the terms used in grammar you can think of.
2. Give all the rules of syntax you can think of.
3. Parse the words in italics in the following:

I saw *the man whom* the sheriff *had arrested, tear* off his fetters and *jump* into the rushing river, *whose current,* no swimmer, *however* strong or skillful, *could stem.*

4. How do you teach small children to speak correctly?
5. Name ten persons whom you consider standard authors and writers.

HISTORY.

1. State all you can of the battle of Bunker Hill, and also of Bunker Hill Monument.
2. State fully the causes that led to the war of 1812
3. Name the prominent American army and navy officers engaged in that war, and where each distinguished himself.
4. Prominent events of Gen. Jackson's administration.
5. Name the more prominent persons connected with the writing and passing of the Declaration of Independence.
6. Have you ever read that Declaration? and if so, state what you know of its contents.
7. Name the causes of the Mexican war and state who was President at that time.
8. How are our Senators and Representatives in Congress elected?

9. How many and what States at first composed this Union?

10. How do you teach History?

GEOGRAPHY.

1. Draw a map and bound the State of Iowa, locating the principal railroads and rivers, and naming ten of the most important towns

2. Name the States, telling the most important production of each.

3. Shape and dimensions of the earth?

4. Causes of day and night.

5. Causes of change of seasons.

6. What effect has the elevation of a country on its climate?

7. How do the animal and vegetable productions of the torrid zone differ from those of the temperate and frigid?

8. Name and locate ten places in the United States famous for events which took place during the Rebellion.

9 State what you know of the geography of Japan.

10. Bound your own county.

MENTAL ARITHMETIC.

State how you would have a pupil solve the following:

1. What will 17 apples cost at 5 cents each?

2. Divide 40 marbles between two boys, so that one shall have ⅔ as many as the other.

3. If two men can do a piece of work in ⅓ of a day and one of them can do the same in ½ a day, how long will it take the other?

4. 6-7 of 65 3-5 are ⅗ of what number?

5. If I sell a horse for $125 and thereby lose 16⅔ per cent., what was the cost?

6. How many eggs at the rate of 4 for 5 cents can I get for 90 cents?

7. Two boys have 23 apples, one has 5 more than ½ as many as the other, how many has each?

8. A boy being asked his age said, if you add as much more and then double it, you will have 48. How old was the boy?

9. Show how you teach the multiplication table.

10. Divide the number in the centre of the following circle by the numbers on the circumference, giving the quotients promptly:

READING AND SOUNDS OF LETTERS.

Read all and give the sounds of the letters in one line of the following:

"The man who aspires to the position and influence of a capitalist must cloke most of the finer and rarer parts of his nature. He must ride through landscapes as beautiful as Val d' Avno without seeing them. If he scales a mountain it must be not to feast his eyes upon the beauty and grandeur that is spread out before him, but to cypher upon the wealth that may be in the dips and veins under his feet."

"Above, around, where'er I gaze,
Thy guiding finger, Lord, I view,
Traced in the midnight planets blue,
Or glistening in the morning dew."

PRACTICAL GEOMETRY.

GEOMETRY, very generally, is supposed to be some abstruse branch of theoretical mathematics, which a venerable ancient, one Euclid, had a good deal to do with in his day, but which, as a science for study by every-day practical men, is neither intelligible nor valuable. Perhaps in early days the reader had to prove why the angle A B C equaled the angle F G H, or why it did not; and his present immunity from all such alphabetical abstractions is contemplated with relief, if not delight.

Boys at school never made a greater mistake than when they believed that geometry and algebra were useless. These studies have a direct value, and a much greater indirect value, as developing the reasoning powers, the ability of analysis, construction and inference.

That geometry does not deserve to be considered an unpractical study, we hope to show in a few examples.

The law that like solids have cubic contents as the cube, and surfaces as the square, of their like dimensions, may have a somewhat abstract sound, but its practically demonstrated value is seen in the economy which attends building large houses, ships, engines, etc. The larger a house, the less wall has it; the larger a ship, the less resisting surface does it present to the water; the larger an engine, the less surface is there for loss of heat by conduction and radiation, and the less surface of cylinder and bearing is there for friction.

Bounding lines increase as the square root of the surfaces they bound, so the larger a field the less fencing it wants, and so on. This law of the economy of aggregation, theoretically defined two thousand years ago by the Greek mathematician, finds a practical manifestation in modern times in the marked disposition toward larger stores, factories, farms, hotels and steamships.

The great obstacle in the way of balloon success is the resistance of the air on the large surface necessary to a balloon of any considerable buoyancy; but if its size be increased, its resisting surface increases in a less ratio than its buoyancy. We think this law will help the coming aëronaut.

To come down in our Euclidic voyage from the big bag of silk in the clouds to the common paper bag on the store counter, we remark that our geometry is as useful as ever. Certain forms of parcels economize covering more than others, the impractica-

ble sphere most, then a cylinder of equal height and breadth; but as we elongate it, and make its form sausage-like, we begin to lose paper. If the parcel *must* have the corners sanctioned by time and grocers, let the cubic form be adhered to as making the most of a bag.

Our readers may smile at this, and call it ultra economy; but it is not, for the wrapping-paper business amounts to millions a year, and prevalent shapes of retail parcels are very wasteful of covering. Besides, this law prevails not only in paper, but in the vast domain of packing-boxes, jars, bottles, cans and kegs; and what political economist can calculate the saving possible to a geometrical regard to the laws which show how most bulk can have least surface?

We commend this subject to the attention of the men of cans and crocks, who, when the frosts of winter have succeeded to the fertilities and abundances of summer, are wont to regale us with the luscious peach, the genial tomato, and the nutritious lobster. Let them know that the nearer the height and breadth of a can, the less tin does it demand for its construction, and they shall live to bless Euclid and us.

The bakers of crackers should know that when their goods take a circular form, their loss in space and as bulk in cargo is twenty per cent.—21.46 per cent. exactly—say 20 per cent. This loss is shared by all the shippers of round packages, whether tins or jars, candles or pill boxes.

The larger a given heated body, the less surface there is for radiation. Steam coils for heating houses exemplify this by their slender dimension, which give a large radiating surface in little bulk. The extreme voracity of the insect plagues which infest our farms and orchards is explained on the same principle; being very small, they expose a very large surface proportionately for cooling, and they keep up the needed temperature by constant feeding, so the smaller a bug or fly, the more ought the farmer to dread a pound of him.

Astronomy has revealed to us countless planets larger than our own, and the small size of our world has led to disparaging comparisons. We have been told, for instance, that Jupiter's bulk is about 1,000 times as much. This indeed pigmies us, and would lead us to call this pellet, only 8,000 miles or so through, something else than universe. Let us qualify all this a little by the consideration that, as the surface of a planet is about all its people use, the smaller a planet is, the larger does it accommodate; so, had big, boastful Jupiter been filled out into globes of our size, ten times as many creatures might have lived thereon.

Following the general law, similar cones are to each other as the cubes of their like dimensions. Thus, a cone two feet high contains eight times as much matter as a like one of one foot high. Wedges with edges of a constant length are to each other, when similar, as the squares of their height or breadth. And here we have a method of balancing a force like magnetism, which increases through its length as the square. An immersed wedge, as heavy as the liquid of immersion, with apex up, is the *desideratum.*

In the two cases of cone and wedge, we think the calculating machine is to be helped. If a cone, apex downward, be immersed in a liquid placed in a graduated cylinder, the displacement of the liquid shall be as the cube of the depth of immersion; so with a wedge, it shall be as the square. This hints at how square and cube roots may be found by a reversal; cylinder, cone and wedge being graduated.

We finish, commending these few suggestions to all who have hitherto thought geometry a dry and unfruitful study, with the hope that their Euclids shall be turned over to good account.—*American Artisan.*

Language in Teaching Arithmetic.—We cannot impress too much upon the teacher's mind that each lesson in arithmetic must be a lesson in language at the same time. This requirement is indispensable with our method. As the pupil in the primary grade should be generally held to answer in complete sentences, loud, distinctly, and with clear articulation, so, especially in arithmetic, the teacher has to insist on fluency, smoothness and neatness of expression, and to lay special stress upon the process of the solution of each example. As long as the language for the number is not perfect, the idea of the number is also defective. An example is not "done" when the result has been found, but when it has been solved in a proper way. Language is the only test by which the teacher can ascertain whether the pupils have mastered any step or not.—*Grube.*

If the young would remember that they may be old, and the old not forget that they have been young, the world would be happier.

EDITORIAL DEPARTMENT.

Pennsylvania School Journal.

LANCASTER, DECEMBER, 1872.

J. P. WICKERSHAM. —•— J. P. M'CASKEY.

AN interesting paper will be found in this number, by Gilbert Butler, principal of the Wayne county normal school. He will continue his contributions, and present to the readers of the JOURNAL a series of articles on technical education. Mr. Butler has traveled extensively in Europe, has seen the systems of drawing practiced in France and Germany, and studied for several years under that of England, and is therefore well qualified to speak upon this important subject. This is clear, that, unless we pay more attention to technical education, we shall be unable to keep pace with foreign nations in arts and manufactures. Hear Mr. Butler.

ALL thinking readers of the JOURNAL will find rich food for thought in the article in this number from the pen of Dr. William T. Harris, superintendent of schools in St. Louis. He has characterized therein with philosophical discrimination the three great stages of culture: the first, dealing with things or objects; the second, with relations or laws; the third, with wholes or universals. And these several stages should correspond with our primary, secondary, and university education. They will so correspond more completely than they now do when we have a better understanding of the science of teaching. It is true, however, that these three great stages may be divided and subdivided into a great number of shorter stages. All learning, indeed, may be fitly symbolized by a ladder, with one end upon the earth and the other lost in the heavens, and with a countless number of steps, upon which the angels can come downward and men go upward.

HERBERT SPENCER, in discussing the question of sociology, in the *Popular Science Monthly*, gives incidentally his idea of education and teaching as follows: It becomes clear that those having supreme authority suppose, as men in general do, that the sole essential thing for a teacher or examiner is complete knowledge of that which he has to teach, or respecting which he has to examine. Whereas, a co-essential thing is a knowledge of psychology; and especially that part of psychology which deals with the evolution of the faculties. Unless, either by special study or by daily observation and quick insight, he has gained an approximately true conception of how minds perceive, and reflect, and generalize, and by what processes their ideas grow from concrete to abstract, and from simple to complex, no one is competent to give lessons which will effectually teach, or ask questions which will effectually measure the efficiency of teaching. Further, it becomes manifest that, in common with the public at large, those in authority assume that the goodness of education is to be tested by the quantity of knowledge acquired. Whereas, it is to be much more truly tested by the capacity for using knowledge—by the extent to which the knowledge gained has been turned into faculty, so as to be available both for the purposes of life and for the purposes of independent investigation. Though there is a growing consciousness that a mass of unorganized information is, after all, of but small value, and that there is more value in less information well organized, yet the noteworthy truth is that this consciousness has not got itself officially embodied, and that our educational administration is working, and will long continue to work, in pursuance of a crude and outworn belief.

AN EXCHANGE, in commenting upon the teachers' institute just held in the county where it is published, thus mildly points out an evil that is growing up in more than one institute:

> We heard just one serious criticism of the week's work, which we here set down for the consideration of all interested in the cause of education. Some thought that too much time was devoted to lectures, and that the teachers present from the various districts of the county did not have enough to do with the exercises. The younger teachers should be drawn out to demonstrate the rules and principles of the common branches which they are called upon to teach in the average district school. They should be encouraged to impart their experiences to each

other, and led to discuss the helps and hindrances of their calling. These things, it is contended, would prove of more practical benefit to the young teacher than a course of lectures, however excellent in themselves. We don't know how far this criticism may be justified, nor how valuable it may be; but it seems worthy of consideration. At any rate, it is made by persons who have had experience in teaching, and who are now practical men of the world.

HINTS ON TEACHING.

PUNCTUALITY.—Nothing destroys the discipline of a school more quickly than a want of punctuality on the part of the teacher. Let him be late a few times, and tardiness will become habitual with the pupils. The postponement of exercises, or the suffering of one recitation to encroach upon the time of another, soon breeds negligence in study, and, consequently, results in badly prepared lessons. Promises made and overlooked, appointments agreed upon and forgotten, punishments threatened and not inflicted, will soon irretrievably destroy all discipline. Punctuality is one of the cardinal virtues of school-room management.

POINT.—Much of our teaching lacks in point. It plays over too much surface, and its scattered fire does little execution. That teaching only is effective which has a definite aim, and brings all its powers to a focus at the point to be mastered by the pupil. It should be understood that pupils are expected to perform a certain amount of work during a term, and the energies of all should be taxed to do it. Each lesson, indeed, should finish something. Long lessons imperfectly understood are of little value. A single point well learned and forever impressed on the memory is better. Little children used to be taught the alphabet by naming over all the letters at a lesson. The task can be performed in a much shorter time by taking a single letter, or two or three letters, at a time. The improved method of teaching the alphabet should be applied in all studies and at all recitations.

SPELLING.—That is the best plan of teaching spelling which impresses most deeply on the mind of the pupil the exact forms of the words. To do this every spelling lesson should be thoroughly learned—that is, every pupil should be required to spell every word. Many teachers allow the misspelled words to pass without further notice, the very thing of all others they should not do. Pupils thoroughly drilled for a term or two to spell *all* the words of their lessons, will ever after be able to spell most words at sight without special memorizing.

CORPORAL PUNISHMENT.—An important contribution to this question is made in the following paragraph from a letter by Prof. J. L. Pickard, Superintendent of the Chicago Public Schools:

The rule of the Board of Education permitting corporal punishment in our public schools has not been repealed, and is still in existence, if not in force. For the past three years the teachers of our public schools have tried the experiment of entire disuse of the rod, with varying success. The discipline of our schools has not suffered in the least by its disuse, except in cases where the impression has prevailed that its use was forbidden. In these schools suspensions for misconduct have been more frequent than heretofore. Cases of corporal punishment occur still, but they are very rare, and in some schools do not occur at all. The good time is coming when no punishment by the rod will be practiced, but I fear that it must be prohibited at the home before it is entirely abolished from the school. We are earnestly trying the experiment of its disuse while its use is permitted, and are meeting with general success.

STATE NORMAL SCHOOLS.

A NEW FACT IN THEIR HISTORY.

SOME difference of opinion has all along existed as to who first originated the idea of establishing State Normal Schools in this State, and still more as to who first suggested the plan of dividing the State into districts, and planting a teachers' school in each. The following extract is from a report made by the Pennsylvania Society for the Promotion of Public Schools, at a meeting held at the Franklin Institute, in the city of Philadelphia, on Monday, the 22d of March, 1830, and signed by Robert Vaux, president:

"In order to supply this indispensable ingredient," that of well-qualified teachers, "in any system of education which can prove successful, the society would emphatically urge the necessity of training teachers, and for this purpose suggests that *in each Congressional district of the State* a seminary should be established by law, where individuals may be prepared for conducting a uniform method of instruction in the common schools, which can be commenced as soon as candidates for the station of instructors are qualified for the discharge of the prescribed duties."

The italics are as in the published report. Here we have the germ of the normal school system in Pennsylvania, and for aught we know it may be the germ of the normal school system of the country. Massachusetts did not establish her first normal school until 1838—eight years after this report was published.

But what is most remarkable about this report is its suggestion that a seminary for training teachers should be established "in each Congressional district." The normal school idea is not indigenous in this country; but the Pennsylvania plan of dividing the State into districts, and establishing a school in each, seems now to have originated at an earlier date and with other persons than has been generally supposed. Perhaps, however, as is not unusual in such matters, it may have suggested itself to the minds of all independently of one another.

SCHOOLS FOR WORKING CHILDREN.

A WRITER in the *Christian Union* has the following sensible remarks and suggestions upon schools for working children. They are commended to the attention of those whom they concern in this State:

In his memorable address to the students of St. Andrews, our English visitor, Jas. Anthony Froude, insisted on the need that every boy should be put in the way of maintaining himself in independence, with a sturdy regard for the realities of living that was quite refreshing in contrast with the sentimentalities customary on such occasions. "The practical necessities," he said, "must take precedence of the intellectual. A tree must be rooted in the soil before it can bear flowers and fruit. A man must learn to stand upright upon his feet, to respect himself, to be independent of charity and accident. It is on this basis only that any superstructure of intellectual cultivation worth having can possibly be built."

This principle is especially true in its application to the great and increasing number of children who must begin to earn their living early, who must make their own way and place in the world, and win by their own labor whatever competence they may hope to attain. For such as these—and there are some millions of them in the land—the means of early education now provided are not only inadequate but unavailable. Literary instruction alone is offered, and that at seasons which shut out its enjoyment from those who cannot subordinate the practical necessities, as Froude calls them.

We are not prepared to urge, as many do, the erection of a system of industrial schools supplementary to the schools already established. Even if the country were able and willing to undertake so gigantic and expensive an enterprise, we are not sure that it would be available. The best possible industrial schools are the farms and work-shops and markets of the land—the places where actual work is done. All that can be asked, is that the schools of letters work in harmony with these schools of labor, recognizing them as of equal importance, and shaping their requirements so as not to clash unduly with them. The ideal public school is not one that seeks to supply every sort of instruction, but one that is *always open:* a perpetual fountain, limited of necessity in the variety of its out-flowings, but unlimited in its time of flowing—a fountain at which any and all may draw as their thirst impels and their opportunities allow. If the child's practical necessities forbid his giving six hours a day to schooling, the school ought to receive him for four hours, or two hours, or half an hour, if need be, and make the most of it.

This is the ideal, to be at best but distantly approximated. It is possible, however, to take a long stride in the right direction, and that without adding a penny to the school-tax, simply by the introduction of half-time classes for such children as find it impossible or undesirable to give the whole day to schooling. This is no untried experiment. It has been most successfully tested in many parts of Germany and Switzerland, and also in England, where especially the condition of things found in our manufacturing towns is deplorably prevalent, where thousands of children of tender years are compelled to spend some portion of every day, if not the whole of it, in mechanical labor. To enable such children to obtain some intellectual training, special schools have been established on the half-time principle; that is two distinct sets of children are taught every day, three or four hours each, the forenoon classes working in the mills in the afternoon, the afternoon classes working in the forenoon. The results of such alternation of work and study, as developed by the Schools Inquiry Commission, are so gratifying that the scheme adopted as a make-shift may ultimately supplant the old established plan of conducting elementary schools. The concurrent testimony of the multitude of school-masters and other witnesses examined, established, to the convict on of the commissioners at least, the following points, beside others which have no bearing on our present subject:

1. That a master can completely exhaust the children's capacity of attention in less than three hours, even when intervals of repose are allowed.

2. That where the teaching is anything like equal, a manual and industrial occupation gives great advantage to the child in the acquirement of knowledge.

3. That the half-time system gives to factory children an education which they most certainly would not obtain if long school hours were required.

4. That as a general rule the working-class schools afford in the same time a much better education than the ordinary middle class (National) schools.

READERS FOR YOUNG LADIES.

THE following letter contains a pungent, if not a proper, criticism upon Readers prepared especially for young ladies. It is not easy to see why a selection that is suitable for an exercise in reading for one sex is not suitable for both; and it is plain that the same means of cultivating the voice must be used for girls and boys alike.

MR. EDITOR: I wish to ask your attention to a subject which has lately engaged our serious thought, *i. e.*, the arrangement of elocutionary exercises designed expressly for the use of one class of readers. I have had several Young Ladies' Readers, Selec-

tions for Ladies, and others of like character sent me. Why should such works be used for class-books? I for one protest against it as a simple act of injustice. In the midst of an effete and worn-out civilization such a thing might not excite surprise, but, in this New World, among the "heirs of all the ages," such a thing is absurd, nay more, it is radically wrong. The vocal organs can gain strength only by vigorous and varied exercise, and no one should be permitted to tamper with literature by making selections which they may consider specially adapted to the use young ladies. An undue proportion of saccharine matter is as injurious to the lungs as to any other part of the system. Holmes says: "Can cold north-easter's icy fetter clip the native freedom of the Saxon lip?" If this be so, great care should be taken not to intensify the evil, by taking from elocutionary exercises aught which can aid in giving strength and flexibility to the voice.

E. MCV. MOOKE.

EDUCATIONAL MAGAZINES.

THE *Western Weekly*, of Davenport, Iowa, devotes a page to educational matter. The editor of this department of the paper has his own opinions on all subjects connected with education, and is very free in stating them. Below will be found a dashy article containing what he has to say concerning educational magazines:

We fancy a change taking place in the educational monthlies—a change that promises improvement, progress. We have long felt that much of the professional literature, presented as so much food to teachers to be mentally appropriated and assimilated, for the purposes of instruction, was but sorry stuff. And the ill-disguised nausea shown by the more cultivated minds in the fraternity, while, from a sense of duty to the vocation, accepting the crude, raw, and ungrown products of crude, raw and ungrown minds, urged upon them in the pages of "official organs," endorsed by "resolutions," has already produced a wholesome effect. And we are happy in the thought that a better day for teachers and for education, the profession and its literature, is at hand. "Official organs" were always weak concerns, and always will be. In education, not less, but more even, than in politics, independent journals are most influential for good. The obstacles in the way of independence on the part of educational journals have been so many and great, apparently—none others could afford the venture—that it has been deemed fool-hardy for any one managing them, especially timid school-masters, to unloose from the mooring afforded by State Associations, and the offices of the Departments. But, thanks to the virtuous courage running in the blood of a few, the days of the infancy of school literature are gone by. A sure evidence of this is the fact that, in most of the States where education is in a good condition of progress, at least two journals bid for the patronage of teachers and the friends of common schools. And thus, in a most legitimate and honorable way, educational literature, like every other commodity, intellectual not less than physical, will be compelled to claim for itself public notice and consideration on grounds of intrinsic and self-commending character. And this result has been produced not merely nor chiefly by the competition arising out of rival periodicals, but by the increasing intelligence of teachers, who have come to know the difference between the "chippy," "starchy" matter of vegetating "organs," and the mature fruit and animating food of ripe and solid thought. Moreover, the general press, especially the literary monthlies, have furthered the same by increased attention to purely educational subjects. They have done so in conformity to the changing demands of society, which, as it advances, looks more particularly and inquiringly into the processes by which its culture is effected.

We, therefore, take up the educational magazines that come to us, expecting to be both entertained and edified.

Then follows a criticism upon several of our cotemporaries pretty severe in some particulars. The following is what is said of our own journal:

The *Pennsylvania School Journal* for October is more than an average number. The article on Moral Training was given to our readers last week, and was duly appreciated. That on the Benefits of Superintendency is very good, but lacks the strength and breadth of treatment which the subject merits. A Visit to Normal Schools, we like for the enthusiasm which the writer displays for what all true educators regard as the very heart of the great cause. My Method of Spelling is suggestive, but hardly offers anything that can claim the honor of a *method*. The article on Religion in our Common Schools is very learned and able. The editorial matter is varied and interesting.

A GROWING EVIL.

WE have no personal knowledge of that whereof the following communication, received from a responsible source, makes mention. But if all that is alleged is true, Philadelphia is not a sinner beyond all other places:

Philadelphia is very proud of her system of public school education, and her directors claim for themselves much credit. But why need this be, and why this feeling of pride, when it is an utter impossibility for a young girl, after fitting herself for a teacher and passing successfully one of our examinations, to obtain a situation unless she be acquainted with or is a personal friend of at least one of the directors? Now, as a great many of our female graduates are not blessed with this great privilege, what is the result? Why a number of competent instructors are wandering at large, while their rightful places are filled with giddy, foolish creatures, not fit to control anything but themselves, and unable to do even that, much less the vast number of children, in whose hands rests the future welfare of the rising generation.

Then, again, if your father is a Republican, and you, his daughter, chance to apply in a Democratic section, you are positively denied, simply on that account; the same disreputable fact is equally true of the Republican wards. What a lack of principle to bring politics into such a matter as this!

My object in writing is to know if something can-

not be done for those persons who are working, and anxiously waiting for a situation, until hope deferred has made the heart sick, and exertion to them seems a thing impossible, on account of one or both of these evils. Do not imagine that I speak for myself; on the contrary I was installed long ago, but seeing the many fruitless efforts of some less fortunate, take this method of speaking in their behalf.

PHILA. TEACHER.

HORACE GREELEY ON EDUCATION.

ON the second day of October last, Horace Greeley visited the State Normal School at Kutztown, and told the teachers and students "what he knew about" education. The following synopsis of his appropriate and practical remarks is taken from the *New York Tribune:*

Education, my young friends, has its legitimate objects, the development of the man or woman, intellectually or mentally, and the development of the workman. When I advocate the prosaic side of the question of education I do not mean to disparage the other. From the days of Plato it has been understood that education makes the man, and his fitness for the exigencies of the world will come after. I have known not less than a thousand thoroughly educated—that is, expensively educated men in New York—men who have entered German, or English, or American colleges, and have been sent forth with diplomas, who are yet utterly unable to earn their bread, and are to-day pacing the stony streets in a vain search for something to do. I consider it the reproach and shame of education that while every robust temperate ignoramus that lands upon our shores with money enough to buy an ax, is morally certain to earn his bread, to become in time a thrifty citizen, his children being heirs to all the possibilities of our condition, the educated man is not so certain My condemnation of education is that it is not complete, it is not fully rounded. It does not prepare us for the exigencies of life. The German student, who has become dyspeptic over his midnight art, who can discourse learnedly of Kant, of Hegel and of Spinosa, yet has not been taught how to earn his own bread. When I say my daughters ought to be scientific cooks, I do not mean that cooking is the chief end of womanhood, for some women have aspirations to become lawyers and even Presidents—it is getting on to that end, I believe—[laughter]—but I mean that they should have some accomplishment in perfection with which the world is not likely to get out of fashion.

A bad education sends man into the world useless. Educated men, while they are capable of better work than mere manual labor, ought in the absence of that better work to be able to do the manual work better than the uneducated man. If they have to dig ditches they ought to dig them better than the ignorant man. When old men are asked to pay $1,000 for a son's education, they say they don't know about it. This education is not sufficient in their sphere of life. A farmer's son ought to come back from college qualified to show his father how better to work his farm. If not, if he returns with a great deal of philosophy and mathematics and sciences out of the range of the old man's apprehension, such education is likely to be unduly disparaged. We ought to expend more money than we do now on education, but we must make the people who pay the money realize the good in education. I am told that the higher and more abstruse studies are an excellent discipline for the mind. But why will not more solid truths—less out-of-the-way truths—serve as a discipline as well as these? I have been forty-six years away from school. I never had aught but a common education. My life might have been more useful and better otherwise, for I have traveled all over this earth, from the Adriatic Sea on the east to the Pacific Ocean on the west, and every day I have deplored the want of knowledge of chemistry and geology as I walk dumb and blind amid the wonderful work of God's creation across the plains, which spoke with God's eloquence, which my limited education prevented me from enjoying. I had no other time for schooling than in the winters of the first ten years of my youth. I never saw during that time a book on chemistry or geology—never knew that such books existed—and I feel now that my life would have been more useful and more enjoyable if I had time and the chance to study them. Learn all we will, we are still imperfectly taught. Let the little that the student may know, then, irradiate the path just about him. When graduates say, "I am educated, and therefore cannot work with my hands," they are mis-educated. We are edcating young people out of usefulness. The true man will do the best work that presents itself to him. Labor is becoming, with our advanced civilization, more intellectual and less physical. In a few years steam will supply all the physical forces of industry. The noblest duties are teaching us how more rapidly to create these new processes, and in time all the forces required will be furnished by artificial power. But I do not disparage the ends of education. The man is, after all, the thing to be perfected. The university student must have bread, and knowledge of the old philosophers is not readily turned into bread. I would have no man sent out not qualified to earn his living by his hands, if need be. I would have each graduate a better armed man, so that if he were wrecked on a desert island he could get along all the better for his education. I would have education bristling with good points, so that, encased in it, he could the better meet a charge of cavalry, an attack of artillery, or of bayonets, or any attack in which the emergencies of life may present themselves. This, young people, is my conception of what education ought to be.

TOPICS OF THE MONTH.

STRASBURG, Lancaster county, is about to supply her public school with a library by means of a fair and festival, to be held during the holidays. A meeting was held recently to arrange the preliminaries, and was well attended. An executive committee of twelve was appointed, with that excellent school man, A. M. Herr, Esq., at its head. We have no doubt the effort will be a successful one at Strasburg, and we expect it to be imitated elsewhere.

NIGHT SCHOOLS have been opened in South Bethlehem borough under the direction of the School Board. The directors of this borough passed, at a recent meeting, the following resolution:

Resolved, That all of our schools be opened and closed by repeating the Lord's prayer in concert; and that before the schools are dismissed at the afternoon session, the Bible may be read, and those children whose parents object to having the Bible read in the public schools, will be allowed sufficient time to leave the rooms

NORTHAMPTON.

The educational department of the *Spirit of the Times and Educator*, published at Bethlehem, and edited by ex-Supt. W. N. Walker, is one of the best departments of the kind in the State. An average of two or three columns of good, live matter is published weekly.

SCHUYLKILL.

SALARIES OF TEACHERS, ETC.

THE names of the teachers of Schuylkill county, their salaries per month, length of term, etc., have been published in the daily *Miner's Journal*, of Pottsville. The following are among the best salaried teachers in the county. The first column of figures is the school term, in months; the second column, the salary per month.

Samuel Davis, High School, Ashland.....	10	$120
J. W. Dannenhower, High School, Minersville	10	110
Robert Ditchborn, Boro' Supt, Tamaqua....	10	110
J. Lineaweaver, High School, "	10	90
G. W. Channell, " " Pine Grove.....	10	100
W. L. Balentine, " " Mahanoy City..	10	100
G. W. Weiss, " " Port Carbon....	9	100
J. G. Krickbaum " " Shenandoah....	9	90
H. H. Spayd, Gram. School, Minersville....	10	89
B. F. Knerr, High School, Schuylkill Haven	9	85
S. C. Kirk, Tremont.....	10	85
G. Madden, Central High School, Cass twp.	9	85
J. C. Purcell, Dist. Supt., Mahanoy twp.....	10	80
B. O'Hare, Cent. High School, Sch'kill twp.	10	80.
Richard Brown, High School, Saint Clair...	8	85

Then there is a long list at $75, $70 and $65 per month. The following are among the best paid female teachers:

Mary F. Egan.....	$65	per month for	10	months
Catharine Barret.....	65	" "	10	"
Mary Hartnet.....	60	" "	10	"
Mary A. Doomer.....	60	" "	10	"
Louisa Allison.....	50	" "	8	"
Lizzie Hardy.....	50	" "	10	"
Mrs. J. V. Lyon.....	50	" "	10	"

Messrs. Dannenhower and Ditchborn have held the same position for eighteen consecutive years.

What county in the State can match Schuylkill in these particulars?

THE Pennsylvania College, at Gettysburg, has completed a large and commodious gymnasium for the use of the students. It is ninety feet in length and fifty feet in breadth, and has all the appointments necessary for a free and liberal physical exercise. It was formally transferred to the students on the 16th inst., on which occasion the recitations were suspended and the officers of the college and the theological students assembled themselves together to witness the exercises connected with its formal opening. A number of addresses were delivered and a game of ten-pins indulged in by Drs. Schmucker and Morris.

PHILADELPHIA.

TWO NOTABLE EVENTS.

OCTOBER witnessed, in the city of Philadelphia, the occurrence of two notable events. On the 11th, the ceremonies attending the dedication of the new edifice recently finished for the University of Pennsylvania, took place, and, on the 30th, there was laid the corner-stone of a new building for the Academy of Natural Sciences. Both of these are events of importance in our educational history.

THE UNIVERSITY.

The plan of the new University building and its cost can be best learned from the following statement, made by William Sellers, chairman of the Building Committee:

The cost of the entire building, exclusive of the special fittings required for the different laboratories, museums, cabinets, and the furniture, has been $239,910.46.

The design of the building is what is known as Collegiate Gothic. The structure consists of a main central building, with connecting eastern and western wings, which are completed by towers.

The front is on Locust street, and extends 254 feet in length, by a depth of 102 feet 2 inches. These measurements are exclusive of towers, bay windows, buttresses, etc. By the projection of the central building there is an addition to the depth at that point of 11 feet 10 inches, the whole depth at the centre being 124 feet. The western wing has been arranged for the use of the Department of Arts, the eastern for that of the Department of Science, whilst certain portions of the centre building are intended for the common use of both departments, such as the chapel, library, assembly-room, etc. Besides these, the building contains sixteen rooms, devoted to instruction in chemistry and its applications, four to physics, six to geology and mining, four to civil and mechanical engineering, three to drawing, three to mathematics, one each to English literature, history, intellectual and moral philosophy, Greek, Latin, French, German, rhetoric and oratory. The laboratories have been fitted up with the most

complete modern apparatus and models; museums and other approved means of illustration have been abundantly provided.

The object of the trustees has been to construct a building which would give the largest and most convenient accommodation for the purposes of instruction in both departments. According to the present system of instruction in the application of science to the arts, a large number of rooms is required to illustrate fully the various processes, and the committee have not hesitated for such purposes to provide accommodations which they believe are as ample as those to be found in any similar institution in this country. Such arrangements are necessarily costly, but the constant desire of the trustees has been to do this work thoroughly and well.

While such extensive arrangements have been made for instruction in the new Department of Science, the committee has not neglected the claims of the other department, the oldest in the university, that of arts. Large recitation and lecture rooms, well lighted and ventilated, have been provided for the classes that attend the instruction given by the professors in this department. All that has been done has been undertaken with a view of affording to young men the best opportunity of receiving the highest training in the various branches of a liberal education.

In order to carry out fully the intentions of the trustees, the older department has been improved, enlarged, and rendered more efficient, while a system of instruction has been carefully matured for the new, based upon the experience of the most successful schools of science in the country, and differing in some respects from any. To insure the success of all our plans, gentlemen of the highest reputation as men of science have been selected as professors in the new school, and they are now giving their zealous co-operation in completing our work.

But something more is needed than a commodious building and a learned and zealous body of professors. The expenditure of money, where preparations have made upon so liberal a scale, must necessarily be large. The funds required for the erection and furnishing of the building were obtained by creating a mortgage of $300,000 upon all the property of the university. It was expected that this debt would be discharged whenever the Ninth street property could be disposed of, and it is believed that this will be accomplished at an early day. It was hoped that the largely increased expenditures which the new course of instruction will entail upon us would be supplied by our endowment fund, but I regret to say this is not yet what we had hoped for. We feel assured, however, that, having now provided ample accommodations and large facilities for instruction, the necessary means for carrying on our work in a liberal manner will not be withheld.

The Provost, Charles J. Stillé, LL. D., spoke of the condition and prospects of the university:

To-day we come before the world with the formal announcement that we have here at last a true university, complete in all its parts, in which men may receive in all the various departments of human knowledge that training and liberal culture which fit them to be the leaders and guides of their fellow-men. Such an event is not only memorable in the history of the university, but it is also one, if rightly apprehended, of great significance in the history of the community in which we live. For, if it be true that we have here and now a university able and ready to do the work which such an institution should do, and the people of Philadelphia are fully impressed with that belief, then, indeed, it is not easy to exaggerate the importance of the event, or over-estimate the far-reaching results of what has been done, to us and to those who are to come after us.

The work of which we celebrate to-day the completion was begun, gentlemen by your predecessors one hundred and seventeen years ago, for the germ which your labors have developed is found in the plan for the "College or Seminary of Universal Learning," chartered in 1755. In its earlier years, as was natural, the fruit borne by the tree which sprang from that germ was not very abundant, but such as it was, it was the choicest then grown on American soil.

In 1765, that illustrious body, the medical faculty of the university—illustrious from the fame of its founders and teachers, and illustrious from the great number of eminent men who, for more than a century, have received earliest professional training from it—was organized. Still later, in 1789, the trustees, keeping in full view the university idea, established another learned faculty, that of the law department. It needed but one more link to complete the circle of the human sciences (for with theology, *scientia divina*, our charter forbade us to intermeddle), and that was a department in which the sciences of nature should be taught in their applications to the arts of life. The organization of such a department has seemed to you not only the natural out-growth of the true university principle, but as eminently fitting for the needs of the times.

We celebrate to-day not merely your fulfillment of the promise held out by our earliest charter, but, when you dedicate this noble building to the use of the two faculties, we gladly hail it as the strongest proof of the earnestness of your desire that that promise shall be kept in the largest and most liberal way.

We know that you have given us here convenient means of instruction unsurpassed anywhere in this country. We know that you have been in constant and active sympathy with all our needs, and our hearts gratefully respond to all that has been done for us. We are fully sensible that the hopes which you cherish for the success of your great enterprise rest mainly on your firm belief that we, who are the teachers here, are imbued with something of your own earnestness and enthusiasm.

We accept, then, the trust which you have imposed upon us, and which you have given us such ample means of executing. To these stately halls an unexpectedly large number of young men, attracted by what you have done for them, have already come, and there is no reason to doubt that an increasing number will follow them when it is known how liberally you have provided for an ever-increasing need. Be it ours to train these young men in a knowledge and love of truth, of right, and of duty. Let us not merely unfold to them the mysteries of nature, but let us teach them something of that grand central figure in nature's realm, of man, his capacities, his history, his responsibilities, his destiny, that so they may be led to attain to that higher knowledge concerning the power and beneficence of that "Almighty Being, by whom both nature and man live, and move, and have their being."

Other gentlemen made addresses and remarks on the occasion, but we have not space to furnish a report of what was said.

THE ACADEMY.

The Philadelphia Academy of Natural Sciences is acknowledged by scientific men to stand at the head of such institutions in America. For many years it has been cramped for room in which to properly display its ever-increasing specimens. Numerous boxes containing valuable objects of natural history have remained unopened for want of suitable places in which to put them, and great loss to the cause of science has been suffered in consequence. Appeals were at last made to the liberal rich men of the city, and the responses obtained enabled the managers of the Academy to commence the erection of a magnificent structure at the corner of Nineteenth and Race streets. One wing will be erected at once, costing $125,000, and the remaining part of the building will follow as soon as additional funds can be raised. It is hoped that the whole will have been completed before 1876, the year of our Centennial. The State, as well as the city, ought to aid in the good work of raising funds. The *Press* of Philadelphia has the following description of the museum:

The museum which will be transferred to the new building, contains more than two hundred and fifty thousand specimens, many of them unique—for instance, the restored skeleton of the Hadrosaurius Foulkii. The cabinet of minerals contains 5,700 specimens. In the department of geology there are about 700 specimens of rocks.

There is no space for a cabinet of stratigraphic geology. The palæontological collection was begun in 1815, and contains 65,000 specimens of fossils. In the botanical collection there are 70,000 species of plants arranged and labeled by distinguished foreign and American botanists. There are 25,000 species of insects represented in the collection. The collection of shells is very fine, there being more than 100,000 specimens. There are 813 species of reptiles represented, and 1,170 species of fishes. The department of ornithology is remarkably rich, embracing more than 31,000 birds All the species of vultures hitherto described are in this collection. There are more than 5,000 specimens of birds' eggs. The collection of comparative anatomy contains 271 skeletons, 346 crania, and 259 parts of different animals.

The department of ethnology was begun in the year 1830. Dr J. Aiken Meigs classified the human crania, numbering 1,225, and published a catalogue of them in 1855. Many additions to his collection have been made since that date. Some collections of ancient Indian art, belonging to the academy, are deposited elsewhere for want of room. Beside the crania, there is one human mummy in its sarcophagus, and 41 mummified animals, all from Egypt, and three human mummies of the Inca race.

There is a chemical apparatus of about 1,500 pieces, but packed away. The biological and microscopical section of the academy possesses a cabinet of 225 mounted specimens of healthy and morbid animal tissues, vegetable structures, mineral substances, &c., a collection of photomicrographs, which are important illustrations of recent progress in microscopic science; it has also five microscopes, including Zentmayer's grand American microscope, and one of Powel & Leland's manufacture, beside some accessory apparatus.

The library on the 1st of January, 1860, contained 24,000 volumes. Some historical documents were disposed of, making the number at the present time 22,500 volumes. The conchological department is almost perfect, there being but three volumes on the subject published not in the collection.

A large crowd witnessed the ceremony of the corner-stone laying, and addresses were made by Dr. Ruschenberger, Rev. Dr. Beadle, Prof. Meigs, and Dr. H. C. Wood, Jr. Dr. Ruschenberger's address will be found very interesting. He spoke as follows:

We have assembled to-day to manifest our satisfaction that, through the intelligent liberality of a comparatively few of our fellow-citizens, we are enabled to commence the erection on this spot of a new building adapted to the purposes of the Academy of Natural Sciences of Philadelphia. The want of a sufficiently capacious edifice has embarrassed, and in some degree retarded, the progress of the institution during many years. The citizens of Philadelphia and of the State of Pennsylvania have a wide-spread interest in the success of this enterprise, although that interest is not universally recognized or admitted.

The completion of the entire edifice, one wing of which we have commenced to build, and the arrangement in it of the collections now belonging to the institution, will be as palpable evidence of educational progress in one department of the exact sciences as can be presented to those who may come here from abroad, in the summer of 1876, to determine our intellectual advancement during the hundred years of our national existence.

The object of the society is to acquire exact knowledge of all created things within the narrow limits of man's capability to investigate, and to give freely to the whole world the knowledge which may result from its labors. Its constant effort is to remove the veil which conceals from us the facts of the creation, in order that all may perceive and recognize their wonderful wisdom and beauty. Attainment of precise truth is the extremely difficult task assumed by this and every society formed for the cultivation of the natural sciences. Yet, under an erroneous and wide-spread notion that the pursuit of truth on this line is in some indefinite manner detrimental to society, it has been and is still opposed by very many intelligent people.

Truth is a unit. Though vastly multiple in constitution, no one of its parts is inconsistent with another. Every absolutely established truth, be it great or small, must be in perfect accord with all that has been or will be ascertained by man. The criterion of truth in natural science is its harmony with all that is absolutely known. Every scientific assumption which is not true, however plausible it may

appear on presentation, will prove to be discordant. In God's creation there is no conflict or contradiction of parts. When accurately interpreted the perfect harmony of their relations will be manifest. The book of nature is entirely free from error; it contains no mis-statement of any kind. Such a book might be studied without perverting the mind from truth or establishing a preference for what is not reality.

Seeking the truths of nature demands an extensive workshop, in which to collect and arrange conveniently for use the numerous implements employed in the work. The implements consist in collections of all those natural objects which have been described, properly classified and labeled ready for study and comparison with those supposed to be new or not yet described. And also an extensive collection of books in which are recorded the results of investigations made by naturalists in all parts of the world; for, he who would add to the stock of knowledge in any department of science needs to be acquainted with what is known already in it, or he may find himself laboring to discover what has been ascertained. A museum and library, chemical apparatus, and microscopes constitute he machinery necessary to facilitate and guide his labors. Such a museum and library and laboratory, in such condition as to be utilized by the naturalist, require large space. And this demand for space increases with the progress of our knowledge.

The academy now possesses more than 6,000 minerals, 700 rocks, 65,000 fossils, 70,000 species of plants, 1,000 species of zoophytes, 2,000 species of crustaceans, 500 species of myriapods and arachnidians, 25,000 species of insects, 20,000 species of shell-bearing mollusks, 2,000 species of fishes, 800 species of reptiles, 31,000 birds, with the nests of 200 and the eggs of 1,500 species, 1,000 mammals, and nearly 900 skeletons and pieces of osteology. Most of the species are represented by four or five specimens, so that, including the archæological and ethnological cabinets, space is required now for the arrangement of not less than 400,000 objects, besides the library of more than 22,500 volumes.

Besides space enough in our workshops to appropriately arrange the vast number of implements, room is desired for a separate and distinct arrangement of all objects necessary to illustrate the natural history of the State of Pennsylvania, as well as a suitable room in which lectures on the natural sciences may be delivered.

To set up this great museum and library, laboratory and lecture-room, we have a plot of ground, measuring a little more than an acre, for which we are indebted to the liberality of members of the society and individual citizens. No substantial encouragement has been yet received from the government of this city, nor from that of the State of Pennsylvania. In this respect the policy of some of the State Legislatures is more encouraging. Massachusetts has given liberal aid to the Boston Society of Natural History, to the Museum of Comparative Zoology at Cambridge, and to the Institute of Technology. New York maintains a Museum of Natural History at Albany by annual appropriations, and has given eighteen acres of land, valued at $4,000,000, and $500,000 besides, to establish a natural history museum at Central Park, in the city of New York. The institutions thus aided are of great value, but no one of them, as a whole, equals ours in scientific importance or intrinsic worth, or is better entitled to public favor.

I mention these facts in no spirit of envy or detraction. We are all gratified to know that the number of laborers in the vast field in which we work is everywhere increasing. The encouragement extended to them by the State government indicates that the cultivation of the natural sciences is becoming more and more highly appreciated and more widely diffused.

TEACHERS' INSTITUTES.

A CORRESPONDENT of the JOURNAL publishes the following in his county papers, and asks for it place in our columns. His suggestions are worthy of consideration:

It is proposed to hold a Teachers' Institute here sometime soon, and it is expected that all teachers in the vicinity will attend, but I will be an exception unless there is a reform in the manner of conducting the institute.

1. I propose that each teacher in attendance keep a journal of the proceedings. This will keep each one busy, will suppress talk, and will enable each one to carry home the result of the combined labor of the institute for future reference. A blank book, bound and ruled, can be bought for twenty-five cents, which will hold the labors of the institute, if well condensed, and which will be a profitable outlay and result in much good.

2. I propose that some one of executive ability take the chair, and keep everything up to time. Last fall teachers came in from 8 A. M. till 11 A. M., and from 1 P. M. till 3 P. M., etc. This alone would kill up any institute. Teachers who are paid for their labor, should be as punctual in attendance at an institute, as at the school-room. Then the presiding official should limit each one to time, and enforce the rule.

3. Essays with seven heads and ten horns should be ruled out, and long, wordy but meaningless lectures should be frowned down. What is wanted at institutes are topical essays and lectures; first, in regard to the selection, and second, in regard to unity of thought. One page of foolscap is large enough to afford space for one essay.

4. Class drills are greatly needed, more time spent in lectures and essays on "methods of teaching," and less time on literary efforts. The day is gone by for writing on such a general subject as "Education," a theme for a *book* rather than an *essay*. Class drills should not occupy more time than fifteen minutes; lectures ten minutes; and essays five minutes. Then every teacher should be prepared with five essays or lectures, one for each day.

5. Every teacher should be compelled to read an essay, or deliver a lecture. A teacher who cannot write a short essay and read, is not fit to teach. But if some would prefer a lecture or a debate, let them have their choice, only require that each one enter service in some exercise. Let the roll be called in regular order, and let each teacher be prepared to respond.

6. Let the work be done by our own teachers. It is folly to import talent. Imported knowledge is like imported goods; it breaks down the home manufacture. "Corn will not grow in the shade." Our teachers must do the work if they want to derive the benefit. I have, however, no objection to evening lectures by distinguished strangers.

OFFICIAL DEPARTMENT.

DEPARTMENT OF COMMON SCHOOLS,
HARRISBURG, Dec., 1872.

ENDORSING PROVISIONAL CERTIFICATES.

THE attention of superintendents is called to the fact that the law provides that provisional certificates "shall not be renewed without a re-examination." An endorsed provisional certificate is not a valid one.

BLANKS IN CERTIFCATES.

A provisional certificate with blanks opposite one or more branches is not valid. All teachers must be able to teach all the branches named in the certificate. Circumstances are such that teachers must still be licensed in some parts of the State whose scholarship is not very good, but they must at least have "a fair knowledge" of the branches required by law to be taught in all schools.

OFFICIAL WORK.

CITY and borough superintendents should count teaching under the direction of boards of directors as official work to be reported to the Department.

OUR COLLEGES.

A gentleman connected with the school department has kindly consented to furnish for this department of the JOURNAL brief sketches of our colleges and other higher institutions of learning. His first article, a sketch of Washington and Jefferson College, appears in this number.

LECTURES ON SCIENCE.

THE services of Prof. A. A. Breneman, late Professor of Chemistry in the Pennsylvania Agricultural College, may be engaged by county superintendents who wish to arouse their teachers to the necessity a broader culture than the ordinary common-school branches can afford. The time has come for this, and it is in such work that Prof B. excels. He will treat the subjects of Light, Sound, Wave-Motion, Spectrum-Analysis, and Chemistry, as may be desired, illustrating by experiments His lectures upon Light and the Spectroscope, etc., before the Lancaster county institute, were among the best of the week, attracting not only the teachers but also the general public. Prof. Breneman may be addressed at Lancaster, Pa.

INSTRUCTOR IN MUSIC.

PROF. B. C. UNSELD, instructor in music at the Lancaster county institute during the past few years, will make engagements to lead the music of county institutes, in any part of the State. He is a professional teacher of Vocal Music, and will be a most valuable addition to the working force of any institute, be it large or small. His post-office address is Columbia, Pa.

CITY AND BOROUGH REPORTS.

We present this month a full table made up from the reports of city and borough superintendents for October. In almost every item of it, it shows that the system is well organized in the several cities and boroughs from which the reports come, that it is efficiently managed and that it is working out good results. To confess the truth, we are proud of this table, for we do not believe that the cities of any State in the Union can exhibit better, if as good, results. We are particularly pleased with the high percentage of attendance generally attained, the fully organized high schools kept in operation, the amount of work done by the several superintendents, the large number of visits made to the schools by directors and parents. Now for a race in this good work among our cities and towns!

We very much regret that we cannot place in the list the names Philadelphia, which ought to head it, Allegheny and Lancaster.

COUNTY INSTITUTES.

Franklin, Chambersburg	Dec.	2
Cameron, Emporium	"	9
Clarion, Clarion	"	9
Union, New Berlin	"	9
Armstrong, Kittanning	"	16
Lycoming, Jersey Shore	"	16
Northampton, Easton	"	16
Luzerne, Pittston	"	16
Clinton, Lock Haven	"	16
Jefferson, Brookville	"	16
Beaver, Beaver	"	16
Northumberland, Northumberland	"	16
Clearfield, Clearfield	"	16
Venango	"	16
Altoona, Altoona	"	23
Columbia, Bloomsburg	"	23
York, York	"	23
Huntingdon, Huntingdon	"	23
Perry, New Bloomfield	"	23
Greene, Waynesburg	"	23
Washington, Canonsburg	"	23
Somerset, Somerset	"	23
Blair, Tyrone	"	30
Westmoreland, Greensburg	"	30
Mifflin, Lewistown	"	30
Lehigh, Allentown	"	30
Schuylkill, Pottsville	"	30
Fulton, McConnellsburg	"	30
Cambria Co., Ebensburg	"	30
Fayette, Uniontown	"	31
Centre, Bellefonte	"	31
Indiana	Jan.	6

Forest, Tionesta..... " 14
Adams, Gettysburg..... " 20
Dauphin, Harrisburg.....Feb. 10

CITY AND BOROUGH REPORTS FOR OCTOBER.

CITIES AND BOROUGHS.	TEACHERS.		PUPILS.								WORK.						
	No. Teachers Employed.	Dis. Institute. Attendence at	No. of Pupils Enrolled.	Average No. in attendance.	Monthly Per-centage of attendance.	Highest per cent obtained by one teacher.	No. Pupils not absent during month.	No. Pupils in High School.	No. Pupils in Keen g School	Days spent in official duty.	No Supr. visits to schools.	No. Directors' visits.	No. Parents' visits.				
Allentown	58	48	2534	1167	85	96	670	78	20	27	70	36	25				
Altoona	31	30	1602	1290	82	97	359	20		24	50	26					
Carbondale	19	19	1163	939	80	97	286	56		3	16	4					
Chester	25	18½	1191	935	85	96	481	55		1	60	4					
Easton	39	39	1761	1507	86	96	653	162		27	82	15					
Erie	54	49	2146	1747	87	97	748	118		23	47	20	48				
Harrisburg	75	60	3357	2676	80	91	247	95	42	20	27	37	23				
Hyde Park	23	23	1565	1440	90	93	259	65	65	24	28	1	28				
Lebanon	31	29	1245	986	83	95	248	68	68	24	33	2	55				
Lock Haven	24		1056	837	80	92				18	63	2	12				
Meadville	22	22	920	857	91	96	374	72	54	27	95	66	11				
Norristown	31	31	1673	1439	87	96	554	71		15	60	18c	244				
Pittsburgh	245	212	16603	8699	88	97	3539	355	136	26	95	13	40				
Pottsville	46	43	2091	1843	88	97	676	53		22	67	12	6				
Reading	112	49	5306	4503	85	95	2039	357		26	76	46	25				
Scranton	50	18	2050	1754	86	95	600	26		19	76	13	25				
Titusville	18	18	1000	857	86	95	278	39		25	50	14	25				
Wilkesbarre	27	27	1194	1016	85	95	322	94		23	60	13	65				
Williamsport	27	27	2153	1688	86	94	600	39		22	60	13	16				
York	43	40	1953	1613	84	98	622	53		21	22	1	32				

DELINQUENT DISTRICTS.

REPORTS have not been received from the following districts of the several counties named, up to Nov. 12, 1872:

Allegheny, Etna borough, Ross; *Cambria*, South Fork, Washington; *Cameron*, Enterprise (Ind.); *Clarion*, Oak Hall (Ind.), Perry, Rimersburg; *Clinton*, Leidy; *Dauphin*, Wiconisco; *Delaware*, Tinicum; *Elk*, Benezette, Highland; *Erie*, Summit; *Fayette*, Perry; *Forest*, Howe, Tionesta township; *Fulton*. McConnell-burg, Thompson; *Indiana*, Banks, Jacksonville; *Lancaster*, Washington; *Luzerne*, Bear creek, Buck, Dunmore, Lebanon; *Lehigh*, Hokendauqua; *McKean*, Corydon, Liberty, Wetmore; *Mercer*, West Greenville, West Middlesex, Pymatuning; *Northampton*, Lower Nazareth; *Northumberland*, Sunbury; *Tioga*, Shippen; *Venango*, Canal; *Westmoreland*, Bolivar; *Wyoming*, Overfield.

It is possible that owing to confusion and changes of names there may be some mistakes in the above list, but it is thought to be correct. All the districts named will certainly lose their State appropriation unless they can give some good reason for their neglect to comply with the law, which requires all reports and certificates to be on file by the 15th of July.

SKETCHES OF OUR COLLEGES.

WASHINGTON AND JEFFERSON COLLEGE.

THE early settlers of western Pennsylvania were distinguished for their love of religion and of learning. Like the New Englanders, they planted the church and schoolhouse side by side. Many of the ministers of this section of the State opened classical schools in log cabins near their own dwellings. Pastors of the congregations of Chartiers, Buffalo and Ten-Mile had such schools in operation between the years 1780 and 1790.

The Canonsburg Academy was opened in 1791, under the principalship of Mr. David Johnston, a graduate of the University of Pennsylvania. In 1802, it was regularly chartered and organized as a college —known as Jefferson College—being the first west of the mountains, with John Watson as its first president.

Washington Academy was chartered by the legislature, September 24th, 1787, six years after the establishment of Washington county, which was the first county formed after the adoption of the Declaration of Independence. By a provision in the charter, this institution received five thousand acres out of the public lands of the State. This land was located chiefly in Beaver county and for a long time involved the board in much expense, but was eventually disposed of and the proceeds devoted to the building up of the Academy. The institution was successfully managed, and on the 28th of March, 1806, an act was passed by the Legislature granting the Trustees the charter of a college (Washington), of which Rev. Matthew Brown, D. D., was the first president. The subject of a union between these institutions was agitated as early as 1807. The subject was more pressingly urged in 1865, and, after frequent conferences, a plan was agreed upon, and, on March 4th, of the same year, the act passed by the Legislature, on application of both boards, became a law. In order to make the consolidation more perfect, an

amendment to the act was passed, and under this authority the college is now conducted. In the consolidation, the alumni of both the old colleges are reckoned as the alumni of the present institution. The alumni of Jefferson College previous to its union with Washington numbered 1,890; of Washington previous to the consolidation, 846; Washington and Jefferson has thus far graduated 288. The alumni of the institution now number 2,964. The college is located at Washington, Washington county, Pa., and at present is under the supervision of Rev. George P. Hays, D. D., as president. The libraries of this institution contain 8,000 volumes, and its apparatus is valued at six thousand (6,000) dollars. The estimated yearly expenses of students is $250. The college is liberally endowed, and it is now the intention to erect new buildings adapted to the times and growing wants of the institution.

NOTES ON THE INSTITUTE CAMPAIGN.

PITTSBURGH.—The institute met September 1st, and continued in session seven days. The whole number of actual members, 231; and the largest number of spectators present at one time, 300. The principal lecturers and instructors were John W. Armstrong, J. P. Andrews, Selina Ackley, D. R. Brubaker, Wm Joyce, Maggie H. Hardee, Fannie Coeher, Sue B. Nichol, C. B. Wood and Rose McCleary. Lectures were delivered by Messrs. Armstrong, Burtt, Douglass, Eaton, Jillson, Gibbon, Tolan, Schonmaker and Superintendent Luckey. Subjects of lectures were Matter, Force, Reconciling Moses with Geology, Evening Schools, Relation of Ward schools to High schools, Teachers' Duties, and Amount of Law in public schools.

POTTER.—The annual county institute convened at Coudersport, September 8th. Names of the instructors and lecturers were as follows: Miss Emma Garfield, Miss Flora T. Parsons and Prof. H. S. Jones. Members enrolled, 116. The following persons were chosen members of the committee on permanent certificates, viz.: Mr. W. A. Weaver, Mrs. Nettie Gridly, and Misses Kate Cushing, Dora Taggart, and Ella Weimer. Instructions were given in the branches usually taught in our public schools. Subjects of lectures: Breaking the Ice, Being Ready, and Art of Questioning.

BRADFORD.—Sessions of institute were held at Troy and Towanda during the weeks commencing September 16th and 23d. Whole number of members enrolled, 204. The following instructors and lecturers were present, viz.: Profs. F. A. Allen, C. H. Verrill, H. H. Hutton, G. W. Ryan, E. E. Junlan and Rev. O. L. Gibbon. Instructions were given in the common branches and theory of teaching. Lectures were delivered on the following subjects: The New Departure in Education, the Training of Children, and the Order of the Cincinnati. The institute continued in session five days at each place above named.

DELAWARE.—The institute was held at Media during the week commencing Oct. 21st Whole number of actual members enrolled, 124; average attendance of members, 111. All the teachers employed in the public schools of the county were present except four, and three of these were sick. Number of directors present, 33. Principal instructors were Miss Flora T. Parsons, Prof. J. B. Roberts, Hon. E. E. White, of Ohio, and Prof. Amos Stevens. Lectures were delivered by Rev. A. A. Willitts, Ex-Gov. James Pollock, Hon. H. C. Hickok, Hon. E. E. White, Dr. Henry Hartshorn and Wm. L. Dennis, Esq. Select readings by J. B. Roberts, E. J. Trimble, Miss Emma Brewer and Mrs. J. Warren. The following named persons constitute the committee on permanent certificates, viz.: Miss Mary L. Dunn, Miss Mattie J. Buchan, Miss Emma Brewer, Miss Marion Kennedy and Miss A. M. Titlow The institute was in session five and one-half days.

MONTGOMERY.—The annual institute convened at Norristown, Oct. 28th, and continued in session five days. Number enrolled as actual members, 231; the average attendance of members, 180. Members engaged in teaching in the public schools of the county at the time, 225. During the sessions of the institute instructions were given in the following branches, viz.: Algebra, penmanship, grammar, arithmetic, elocution, map-drawing, geography, history and orthography. Lectures were delivered by A. Rambo, P. Y. Eisenberg, Revs. A. Wiggins and Alex. Reed, D. D., Profs. S. B. Heiges and Andrew Burtt, Rev. F. A. Muhlenberg, D. D., J. R. Hunsicker and J. R. Sypher, Esqs. Subjects of lectures: Music in Public Schools, Power and Beauty of Moral Excellence, Rambles in Europe, Moses *vs.* Darwin, The Imagination, Little Things, and Pennsylvania in History A resolution that the limit of school age should be fixed at 7 years was discussed.

WARREN.—Institute in session at Wrightsville during week commencing Oct. 28th. Members present, 125; average attendance, 110. The schools of the county have not generally opened for the winter term, hence but 20 are reported as engaged in teaching at this time. Twelve directors attended the different sessions The following persons were present as lecturers and instructors, viz.: G. L. Eberhart, Erastus Crosby, Frederick Hooker and H. I. Gourley. Instruction was given in object teaching, and the branches pursued in public schools generally.

SULLIVAN.—Institute convened at Laporte, Oct. 28th, and continued in session five days. There were enrolled 67 actual members; average attendance, 57. The sessions were well attended by the citizens. The principal instructors were Prof. Chas. H. Verrill, Principal of the State Normal School, Mansfield, Pa., W. C. Tilden, Esq., and Prof. A. N. Raub. Instruction was given in spelling, reading, writing, arithmetic, geography, U. S. history, school economy and in teaching.

BUCKS.—Institute met at Doylestown during the week commencing Oct. 14th, and was in session five days. There were 251 actual members enrolled; average daily attendance, 207. Of the members present, 219 were engaged in teaching in the common schools of the county at the time. Instructors present, Hon. E. E. White, Profs. A. N. Raub, W. W. Woodruff and Misses Emma Garfield and Maria L. Sanford. Lectures were delivered by Rev. Alex. Reed, D. D., Amasa McCoy, Rev. A. A. Willits, D. D., Rev. C. Z. Weiser and Daniel Dougherty, Esq.

Instruction was given in the branches usually taught in the public schools, in vocal music, and in theory of teaching. Subjects of the lectures: Rambles in Europe, Want of Time for Self-culture, Moonshine, Science and Revelation, and the Stage.

ITEMS FROM LATE REPORTS.

ARMSTRONG.—Few districts are as yet fully supplied with teachers. A large number of applicants were examined at a special examination. Directors are not disposed to accept *any teacher*, but wish to have the best they can get.

BEDFORD.—All the schools in the county will be opened by November 4th There will be five months or more in all districts except two—West Providence and Southampton. We still hope to bring West Providence under the new act. Southampton is not included under its provisions.

BLAIR.—Prof. Burtt, of Pittsburgh, has been employed to assist us at the annual county institute. No pains will be spared in making the next session one of the most interesting and efficient yet held in the county.

CAMERON.—Thirteen schools are now open in the county, and of the teachers in charge three hold professional, one permanent certificates; one holds college diploma, and there are three normal schools diplomas. The average salary of these eight teachers is $53.50. All are "imported" except *one*. Through liberality of the citizens of Emporium the school directors have been enabled to order a 300-pound bell from the Meneely foundry West Troy, N. Y. Through the indefatigable labors of Mr. B. H. Burlew, teacher in charge of the school at Driftwood, the school-room has been furnished with Bancroft's Gothic Desk, and about 160 sq. ft. of blackboard surface. These were procured by funds raised by individual subscriptions.

CLEARFIELD.—We have divided the county into sixteen (16) institute districts, as there are are not enough teachers in any one township to make an interesting institute. Meetings will be held in these districts twice each month, and a report of each handed in at the county institute.

DELAWARE.—The annual institute was held this month. The institute was good; we never had a better one; all the teachers of the public schools were present, except four, and three of these were sick The teachers of Chester City were not in attendance with us.

HUNTINGDON.—Nearly all the public schools have opened for the winter term. Districts heretofore having only four months' school, with one or two exceptions, will this year keep their schools open five months as required by law. Teachers' salaries have been increased in a few localities, but in many townships the salaries are too low to secure good teachers.

JUNIATA —Most of our schools are now open The people are generally satified with the increase in the length of the school term, making it *five* instead of *four months*. The attendance very irregular. I hold occasional meetings in the evenings, at which teachers and citizens are invited to express their views on educational subjects.

LEBANON.—The schools of Jonestown borough, and North Lebanon, Independentt were graded during the month.

LANCASTER.—The new school-house at Salunga, West Hempfield township, was dedicated Oct. 26th. Although the weather was very bad, the house was filled with citizens. Addresses were delivered by the Co. Supt. B. F. Shaub, Ephraim Hoover, W. D. Reitzel, and A. B. Kreider, teacher of the school. Mr. Lupold presided. The citizens of Salunga are wide-awake upon the subject of education, desirous of having good houses and good teachers, and are willing to pay liberally for them. The board deserve much credit for erecting so fine a building and furnishing it so neatly. This is the second house built by them during the year. West Hempfield is marching on. How many more districts will follow the near future will show.

LEHIGH —Schools are all in operation, with few exceptions. Teachers and directors' meetings will be held during next month at various places.

LUZERNE.—Have examined since June 234 teachers and issued 226 provisional certificates We have 450 schools in the county Teachers are in demand.

LOCK HAVEN.—Supt. A. N. Raub says the normal school buildings are again under contract, and the builders at work.

MONROE.—The greater part of our schools open Nov. 4th There has been a scarcity of teachers and the number of private examinations has increased in consequence. Eldred, Polk and Hamilton have increased their salaries. Smithfield pays according to grade of certificate.

NORTHAMPTON.—The schools of this county are now all in operation. The teachers are now organizing district institutes in many parts of the county. and managing them with vigor and a determination to make them useful

PIKE.—Many of our schools will soon open for the the winter term. From present appearances a number of our districts feel disposed to increase the salaries of worthy teachers.

SOMERSET.—The examinations were generally well attended by directors and citizens Many of the applicants passed very creditable examinations.

WESTMORELAND.—Our schools are all in session excepting those of Fairfield. They will open Nov. 11th. The schools which I have visited are doing very well, and I have favorable reports from others.

TIOGA —The Tioga county teachers' association will hold its annual meeting at Tioga, commencing Nov. 22d, 1872.

WILKES-BARRE—Number of pupils not tardy during month 630; not absent nor tardy, 371. Number dismissed for an absence of eight half-days (four days) in a month, seventeen boys and ten girls. A correspondent of the *Scranton Republican* writing in reference to the Superintendent's monthly report to the school board says: The attention of the board was specially invited to the distribution and proper location of pupils as regards age in its relation to studies. Seven years ago the pupil nine years of age sat beside the pupil of fifteen or even seventeen; seven and twelve were at the same work. Now the pupil enters at six; the second grade shows an age corresponding with the advance, and the eye traces the growing average through nine, ten, eleven, twelve, to fifteen in the high school. Only practical educators can correctly estimate the labor required to bring this about; such is the graded school work and such the success of the board. The percentages ranged from the lowest, 57-100 the result of former mismanagement of a grade, of incompetency in the teacher and consequent loss of interest in the studies of the room, to 94-100 as found in the high school.

Here, however, the girls had the advantage; they reaching 96-100, the boys only 92-100. The attention of the board was earnestly invited to the treatment of the so-called "dismission papers." It was suggested that parents be required to present these papers in person or to offer some good excuse for sending the child to be re-instated. The influence of each member of the board in sevcring for the schools a proper understanding in the family, and greater confidence from it, was emphasized in the report. In the interchange of views by the several members, there was expressed no little determination to aid the teacher and support school law.

YORK BORO. The percentage of attendance has been reduced during the past month by the absence of many pupils during week of Agricultural Fair. We hope to regain our standing next month. The stringent rules in cases of truancy work admrrably. Our borough institute are occasions of much interest to our teachers.

BOOK NOTICES.

THE FOURTH READER. *By Lewis B. Monroe, Professor of Vocal Culture and Elocution in Massachusetts Institute of Technology.* 16*mo. Pp.:* 240. *Philadelphia: Cowperthwait & Co.*

Messrs. Cowperthwait & Co. have in course of publication a series of reading books compiled by a gentleman who is one of the finest elocutionists as well as one of the best readers in the country. These are being issued in very handsome style, so that, between publisher and author, Monroe's Readers leave little to be desired. The Fifth of the series was published some months ago; we here take pleasure in commending the Fourth to the favorable notice of teachers and directors. †

GARETH AND LYNETTE, *By Alfred Tennyson, Poet Laureate. With Illustrations. Pp.:* 96. *Boston: J. R. Osgood & Company.* 1872.

This poem, which concludes the Idyls of the King, follows the Coming of Arthur and the Last Tournament, and precedes Guinevere. It may rank among the Arthurian poems, where ranked Gareth among King Arthur's knights, whose brief creed of duty embraces all man needs in life or death.

> 'Follow the Christ, the King:
> Live pure, speak true, right wrong, follow the King,
> Else wherefore born?

†

BALDWIN'S ANCIENT AMERICA. *Ancient America in Notes on American Archæology. By John D Baldwin, A. M., Author of "Pre-Historic Nations," etc, with Illustrations.* 12*mo. Pp.:* 299. *Cloth,* $2.00 *New York: Harper & Brothers.*

A condensed statement of what is known—from ruins left behind them—of the civilized or semi-civilized nations that inhabited a large part of this continent long before Columbus and his "A. D. 1492." Who were the Mound Builders of the Mississippi Valley? Who built the cities and pyramids of Central America, now found in the depths of what seem primeval forests? Who the palaces and temples of Peru, or erected there the gigantic monoliths which excite the wonder of the antiquarian? Mr. Baldwin seems to have brought together into this interesting book whatever of fact or theory is approved by the intelligent student of archæology. †

THE YOUNG DECLAIMER. *A Collection of Pieces in Poetry, Prose and Dialogue, Designed for the Use of Pupils in Intermediate Schools. By Charles Northend, A. M. Small* 12*mo. Pp.:* 205. *New York: A. S. Barnes & Co. Price,* 75. *cts.*

A handy little book for the boys, including the three departments, poetry, prose and dialogue, in order as named. The selections are mainly new, and such as the little folks will enjoy. †

CYCLOPÆDIA OF BIBLICAL, THEOLOGICAL AND ECCLESIASTICAL LITERATURE. *Prepared by the Rev. John McClintock, D. D., and James Strong, S. T. D. Vol. IV.—H. I. J. Pp.:* 1120. *Cloth,* $5.00. *New York: Harper & Brothers.*

This great work goes steadily forward. The fourth volume, which carries it half way towards completion, contains over three thousand articles, many of them illustrated. These have been furnished by seventy or more different writers, man of various religious denominations. It is believed by those familiar with works of this character that the above will be much the best work of itsclass existing in any language. In it the Bible student, whether, clergymen or layman, will have the latest results of the most patent research and the ablest scholarship of our time. †

MARJORIE'S QUEST. *By Jeanie T. Gould. With Illustrations by Augustus Hoppin.* 16*mo. Pp.:* 366. *Boston: Jas. R. Osgood & Co.*

A line from Spenser on the title-page, "One loving houre for many yeares of sorrow can dispense," gives the key-note of the story. Marjorie, a mere child, is left motherless among strangers, and through a life-experience less happpy than sad, she goes in "quest" of her father who is found at last. Events as narrated are at times rather improbable, but the interest is well sustained and the moral good. †

BIBLE GEMS, *or Manual of Scripture Lessons. Specially Designed for Public Schools, but Equally Adapted to Sunday Schools and Families. By Miss R. E. Kremer. Pp.:* 314. *Philadelphia: J. B. Lippincott & Co.*

This is a small book of "Scripture lessons," prepared especially for the more useful study of the Holy Scriptures in our public schools, by Miss R. E. Kremer, for a series of years an experienced teacher and late principal of the female high school, of Lebanon, in this State. The work is arranged in the form of question and answer, giving evidence of much care and labor in its preparation. The historical and other events of the Bible are given in their chronological order, and generally in the exact language of the sacred text, and so framed as to be of easy comprehension. The book is wholly free from denominational bias, carefully avoiding all conflict with the unsectarian principle upon which our public school system is based; and in this view, it commends itself to the favor of all professing Christians. Its introduction into our common schools would, we believe, prove of great benefit to our youth The work is highly recommended by many of our best scholars and educators as well as by many of our leading secular and religious journals.

We believe it to meet, better than any other work of its kind within our knowledge, the need that is felt for a text-book that shall contribute to a better and more practical study of the Word of God in our schools. +

COLTON'S NEW SERIES.

COLTON'S NEW INTRODUCTORY GEOGRAPHY. *Illustrated by Numerous Engravings and Eighteen Maps, Drawn expressly for this work. Quarto. Pp.:* 85. *New York: Sheldon & Co*, 677 *Broadway. Price*, 90 *cents.* 1872.

COLTON'S COMMON SCHOOL GEOGRAPHY. *Illustrated by Numerous Engravings and Twenty two Study Maps, Drawn expressly for this work and Specially Adapted to the Class room. To which are added Two Full-sized Railroad Maps, Showing the Chief Routes of Travel, and a Complete Series of Ten Commercial and Reference Maps of the United States. Price*, $1 75. 1872.

"Colton" is a good name in geography. Of the two books in this series, the first, an admirable elementary work, deals only with the outlines of the subject, not attempting to teach too much. The maps are distinctly lettered and not crowded with names; and, for convenience of the pupil, the map questions are on same page with, or on page facing, their map. The description of countries is in simple language, and only their more striking features are presented. A pronouncing vocabulary and general review have been added. The second book is well adapted to higher grades of schools. Areas and populations are given in the text in round numbers. The maps for study are not crowded, nor are map questions too minute. Physical geography is treated; map-drawing receives attention, and the illustrations are good. The Railroad Maps are valuable, and the ten Commercial and Reference maps seem to contain everything that is likely to be looked for. These are, doubtless, from the larger Colton's Atlas.

MANUAL OF MUSIC LESSONS. *For Primary and Secondary Schools, By Jean Louis, Superintendent of Music in Philadelphia Public Schools. Small 12mo. Pp.*: 48. *Published by the Author.*

MANUAL OF MUSIC LESSONS. *For Grammar Schools in the First School District of Pennsylvania. By Jean Louis. Octavo. Pp.:* 96. 1872.

These manuals, used as text-books in music in the public schools of Philadelphia, afford elementary music lessons, numerous exercises upon the scale in the different keys, and a fair selection of pieces for practice. The typographical work upon them is by Mr. J. M. Armstrong of Philadelphia, one of the best music typographers in the country. +

SILICATE BOOK SLATES. *Manufactured by N. Y. Silicate, Book Slate Co.*, 191 *Fulton street, N. Y.*

The book slates and slated leaves of this company have acquired a large sale and a deservedly high reputation. The company also manufacture a good lead pencil bearing their trade mark. +

MUSIC AND MORALS. *By Rev H. R. Haweis, M. A. With Illustrations and Diagrams. 12mo. Pp.:* 478 *Cloth*, $1.75. *New York: Harper & Brothers.*

A reprint of an English work which has been attracting notice for its original treatment of these subjects, in the influence which one may and does exert over the other. To the general reader the Second Part of the work will be of interest, from accounts given of Handel, Haydn, Mozart, Beethoven Mendelssohn and others, and sympathetic descriptions of their great oratories or other compositions. The Third Part gives a description and history of various musical instruments; while the Fourth treats the present status of music in England. +

PAYSON, DUNTON & SCRIBNER'S MANUAL OF PENMANSHIP. *P. D. & S. Authors: J. W. Payson, S. Dunton, W. M. Scribner, G. H. Shattuck. Pp.:* 106. *New York and Chicago: Woolworth, Ainsworth & Co.* 1872.

A beautiful hand-book for the use of teachers in giving instruction in penmanship. The directions given on each page of the later "P. D. & S." series of copy books seem all that is needed, but many teachers prefer to have, in addttion to these, a text-book to which they may turn for any hints desired. The advantage of careful instruction here is that it insures to the pupil acquaintance with a *system* of penmanship, after which practice only is needed to acquire a fair business hand. We take this manual to be mainly the work of Mr. Manson, one of the most practical penman in the country. +

INDEPENDENT CHILD'S SPELLER: *Printed in Imitation of Writing. With Original Classification of Words, Formations of Columns, and Exercises for Reading, Writing, etc. By J. Madison Watson. Pp.:* 80. *New York: A. S. Barnes & Co.; Philadelphia: A. P. Flint, General Agent.*

This little book, wholly in *script* alphabet, is really something new in primary instruction. It is designed to precede all other spellers, and renders the child familiar with the written form of the word each exercise being a lesson in spelling, reading and writing. The idea as here worked out is a novel one, and the book will be a favorite in the school-room. Sent by mail, postpaid, for twenty-five cents. +

A MANUAL OF DICTATION PROBLEMS, *and Key to the Common School Arithmetic. By D B. Hagar, Principal of State Normal School, Salem, Mass. 16mo Pp.:* 117. *Phila.: Cowperthwait & Co. Price*, 1 00.

This manual, prepared for the convenience of teachers, contains some sixty or more pages of dictation problems and topical reviews, carefully prepared. These are followed by a Key, giving all answers omitted in the Common School Arithmetic, with solutions of difficult problems. +

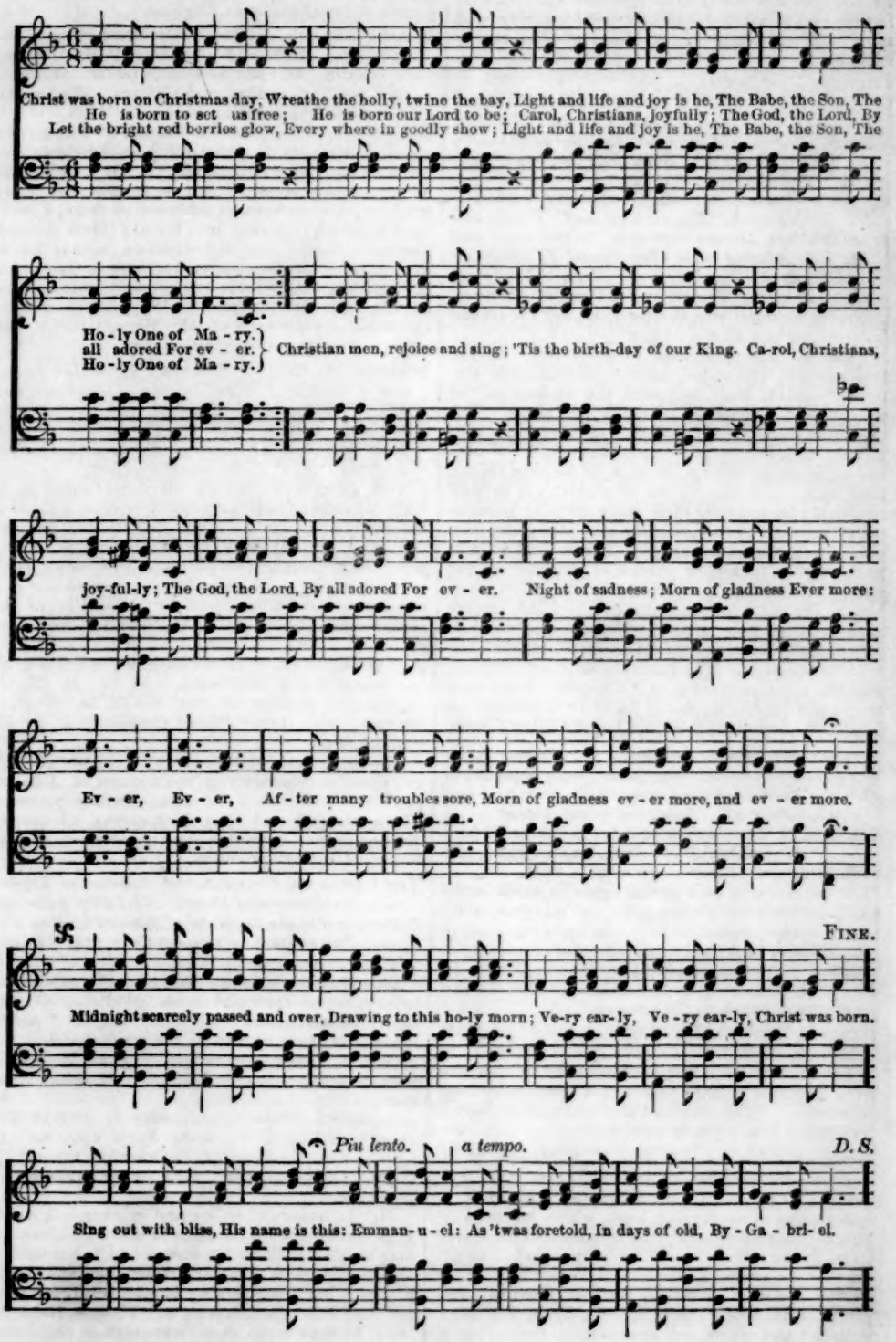
THE LAWRENCE SPEAKER. *A Selection of Litera y Gems in Poetry and Prose. By Philip Lawrence, Principal of the Institutes of Elocution, New York and Philadelphia. 12mo. Pp.:* 724. *Phila.: T. B. Peterson & Co.*

Nearly all the old pieces that school-boys would retain are found here, and some good ones that are new. Charles Lamb used to say that the "pawing declaimers" soon spoiled all the good pieces as they appeared. The gentle essayist differed in opinion from modern teachers and compilers of school speakers. +

TALLMAGE'S SERMONS. *Sermons by DeWitt Tallmage, Author of "Crumbs Swept Up," etc. Delivered in the Brooklyn Tabernacle. 12mo. Pp.:* 405. *Cloth*, $2.00. *New York: Harper & Brothers.*

Mr. Tallmage is an earnest worker, all on fire with enthusiasm for the cause in which he labors. He may be in some degree "sensational," but with his vivid imagination and rare dramatic power to second a strong brain and loving human heart, we would not have him other than he is. Through these Sermons he must reach an audience such as could never be assembled in his own great Tabernacle. +

CHRISTMAS CAROL.

S. S. Service and Tune Book.

Christ was born on Christmas day, Wreathe the holly, twine the bay, Light and life and joy is he, The Babe, the Son, The
He is born to set us free; He is born our Lord to be; Carol, Christians, joyfully; The God, the Lord, By
Let the bright red berries glow, Every where in goodly show; Light and life and joy is he, The Babe, the Son, The
Ho-ly One of Ma-ry.
all adored For ev-er.
Ho-ly One of Ma-ry.
Christian men, rejoice and sing; 'Tis the birth-day of our King. Ca-rol, Christians,
joy-ful-ly; The God, the Lord, By all adored For ev-er. Night of sadness; Morn of gladness Ever more:
Ev-er, Ev-er, Af-ter many troubles sore, Morn of gladness ev-er more, and ev-er more.
Fine.
Midnight scarcely passed and over, Drawing to this ho-ly morn; Ve-ry ear-ly, Ve-ry ear-ly, Christ was born.
Piu lento.
a tempo.
D. S.
Sing out with bliss, His name is this: Emman-u-el: As 'twas foretold, In days of old, By-Ga-bri-el.